

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: July 22, 2004, 08:17:14 ; Search time 41 Seconds
(without alignments)
4185.573 Million cell updates/sec

Title: US-09-581-241A-4
Perfect score: 2823
Sequence: 1 MENWENDENVGPFFPI.....TKIDGKAIREILKPKVAKM 548

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 1288442 seqs, 313154207 residues

Total number of hits satisfying chosen parameters: 1288442

Minimum DB seq length: 0
Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 100 summaries

Database : Published Applications AA:*
1: /cgn2_6/prodata/1/pubpaa/US07_PUBCOMB.pep.*
2: /cgn2_6/prodata/1/pubpaa/PCT_NEW_PUB.pep.*
3: /cgn2_6/prodata/1/pubpaa/US06_NEW_PUB.pep.*
4: /cgn2_6/prodata/1/pubpaa/US06_PUBCOMB.pep.*
5: /cgn2_6/prodata/1/pubpaa/US07_NEW_PUB.pep.*
6: /cgn2_6/prodata/1/pubpaa/PCTUS_PUBCOMB.pep.*
7: /cgn2_6/prodata/1/pubpaa/US08_NEW_PUB.pep.*
8: /cgn2_6/prodata/1/pubpaa/US08_PUBCOMB.pep.*
9: /cgn2_6/prodata/1/pubpaa/US09A_PUBCOMB.pep.*
10: /cgn2_6/prodata/1/pubpaa/US09B_PUBCOMB.pep.*
11: /cgn2_6/prodata/1/pubpaa/US09C_PUBCOMB.pep.*
12: /cgn2_6/prodata/1/pubpaa/US09_NEW_PUB.pep.*
13: /cgn2_6/prodata/1/pubpaa/US10A_PUBCOMB.pep.*
14: /cgn2_6/prodata/1/pubpaa/US10B_PUBCOMB.pep.*
15: /cgn2_6/prodata/1/pubpaa/US10C_PUBCOMB.pep.*
16: /cgn2_6/prodata/1/pubpaa/US10_NEW_PUB.pep.*
17: /cgn2_6/prodata/1/pubpaa/US60_NEW_PUB.pep.*
18: /cgn2_6/prodata/1/pubpaa/US60_PUBCOMB.pep.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	2805	99.4	548	10	US-09-838-469-28
2	2805	99.4	548	15	US-10-378-168-28
3	2684	95.1	548	10	US-09-838-469-27
4	2684	95.1	548	15	US-10-378-168-27
5	2335.5	82.7	548	10	US-09-838-469-29
6	2335.5	82.7	548	15	US-10-378-168-29
7	1965.5	69.6	547	10	US-09-838-469-32
8	1965.5	69.6	547	15	US-10-378-168-32
9	1956.5	69.3	975	12	US-10-072-013-329
10	1951.5	69.1	895	14	US-10-348-074-47
11	1945.5	68.9	550	10	US-09-838-469-31
12	1945.5	68.9	550	14	US-10-348-074-34
13	1945.5	68.9	550	15	US-10-378-168-31
14	1945.5	68.9	1172	14	US-10-122-706-4
15	1890	67.0	548	10	US-09-838-469-30

16	1890	67.0	548	15	US-10-378-168-30
17	1831	64.9	552	10	US-09-838-469-33
18	1831	64.9	552	15	US-10-378-168-33
19	1708.5	60.5	544	10	US-09-838-469-24
20	1708.5	60.5	544	10	US-09-813-279B-2
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22	1708.5	60.5	544	15	US-10-378-168-24
23	1708.5	60.5	544	15	US-10-378-168-45
24	1708.5	60.5	544	16	US-10-855-878-2
25	1708.5	60.5	544	16	US-10-855-878-4
26	1704.5	60.4	544	10	US-09-813-279B-3
27	1704.5	60.4	544	15	US-10-378-168-44
28	1704.5	60.4	544	16	US-10-855-878-3
29	1674.5	59.3	546	10	US-09-838-469-23
30	1674.5	59.3	544	15	US-10-378-168-23
31	1669.5	59.1	544	10	US-09-838-469-19
32	1669.5	59.1	544	10	US-09-813-279B-1
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34	1669.5	59.1	544	16	US-10-655-878-1
35	1648.5	58.4	544	15	US-10-378-168-22
36	1647.5	58.4	546	10	US-09-838-469-22
37	1645.5	58.3	544	15	US-10-378-168-18
38	1645.5	58.3	546	10	US-09-838-469-18
39	1643.5	58.2	544	15	US-10-378-168-20
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41	1640.5	58.1	544	15	US-10-378-168-15
42	1640.5	58.1	544	15	US-10-378-168-21
43	1640.5	58.1	546	10	US-09-838-469-15
44	1640.5	58.1	546	10	US-09-838-469-21
45	1637.5	58.0	544	15	US-10-378-168-17
46	1637.5	58.0	546	10	US-09-838-469-14
47	1637.5	58.0	546	10	US-09-838-469-17
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49	1636.5	58.0	545	15	US-10-378-168-25
50	1631.5	57.8	544	15	US-10-378-168-16
51	1631.5	57.8	546	10	US-09-838-469-16
52	1630.5	57.8	547	10	US-09-838-469-25
53	1628.5	57.7	545	15	US-10-378-168-37
54	1511.5	53.5	581	10	US-09-838-469-37
55	1459.5	51.7	545	9	US-09-993-874-2
56	1387	49.1	546	14	US-10-223-072-2
57	1387	49.1	546	14	US-10-223-072-4
58	1383	49.0	546	10	US-09-838-469-34
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60	1365	48.4	542	15	US-10-378-168-47
61	1365	48.4	543	10	US-09-838-469-36
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64	1354	48.0	542	15	US-10-378-168-26
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66	1354	48.0	543	15	US-10-378-168-35
67	1330	47.1	546	9	US-09-993-874-4
68	769	27.2	546	12	US-10-424-599-222072
69	769	27.2	553	12	US-10-425-114-36657
70	763	27.0	506	12	US-10-425-114-55457
71	763	27.0	510	15	US-10-369-493-20140
72	741	26.2	540	12	US-10-424-599-282926
73	740	26.2	547	12	US-10-424-599-152745
74	735	26.0	548	12	US-10-424-599-245106
75	735	26.0	564	12	US-10-424-599-239763
76	734.5	26.0	535	9	US-09-947-027-10
77	734.5	26.0	535	13	US-10-091-009-10
78	734.5	26.0	535	14	US-10-184-385-2
79	731.5	25.9	561	16	US-10-437-963-105422
80	729	25.8	569	12	US-10-424-599-237811
81	725.5	25.7	575	14	US-10-361-460-3
82	724.5	25.7	540	9	US-09-796-256A-8
83	722.5	25.6	544	14	US-10-174-693-349
84	720	25.5	544	15	US-10-369-493-6433
85	715	25.3	570	14	US-10-184-385-4
86	712.5	25.2	526	15	US-10-369-493-12596
87	712	25.2	539	16	US-10-437-963-133457
88	710	25.2	524	14	US-10-156-761-11398

Sequence 30, Appl	Sequence 33, Appl	Sequence 33, Appl	Sequence 24, Appl	Sequence 4, Appl	Sequence 24, Appl	Sequence 45, Appl	Sequence 2, Appl	Sequence 4, Appl	Sequence 3, Appl	Sequence 44, Appl	Sequence 3, Appl	Sequence 23, Appl	Sequence 23, Appl	Sequence 19, Appl	Sequence 1, Appl	Sequence 19, Appl	Sequence 1, Appl	Sequence 22, Appl	Sequence 18, Appl	Sequence 18, Appl	Sequence 20, Appl	Sequence 15, Appl	Sequence 15, Appl	Sequence 21, Appl	Sequence 15, Appl	Sequence 21, Appl	Sequence 17, Appl	Sequence 14, Appl	Sequence 17, Appl	Sequence 14, Appl	Sequence 25, Appl	Sequence 37, Appl	Sequence 3, Appl	Sequence 2, Appl	Sequence 2, Appl	Sequence 4, Appl	Sequence 3657, A	Sequence 55457, A	Sequence 20140, A	Sequence 282926,	Sequence 152745,	Sequence 239763,	Sequence 10, Appl	Sequence 10, Appl	Sequence 2, Appl	Sequence 105422,	Sequence 237811,	Sequence 3, Appl	Sequence 8, Appl	Sequence 349, App	Sequence 6433, App	Sequence 4, Appl	Sequence 12596, A	Sequence 133157,	Sequence 13398, A
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89 704 24.9 559 14 US-10-289-757-90 Sequence 90, Appl
90 702 24.9 470 12 US-10-425-114-48996 Sequence 48996, A
91 699 24.8 559 14 US-10-289-757-91 Sequence 91, Appl
92 698.5 24.7 555 16 US-10-437-963-196091 Sequence 196091,
93 697.5 24.7 575 14 US-10-174-693-407 Sequence 407, App
94 697 24.7 601 12 US-10-425-114-69253 Sequence 69253, A
95 696 24.7 555 14 US-10-361-460-2 Sequence 2, Appl
96 691.5 24.5 571 16 US-10-437-963-102985 Sequence 102985,
97 687 24.3 551 14 US-10-174-693-348 Sequence 348, App
98 681.5 24.1 565 16 US-10-437-963-140091 Sequence 140091,
99 675 23.9 539 14 US-10-289-757-89 Sequence 89, Appl
100 671 23.8 555 16 US-10-437-963-166762 Sequence 166762,

ALIGNMENTS

RESULT 1

US-09-838-469-28
; Sequence 28, Application US/09838469
; Publication No. US20030068801A1

GENERAL INFORMATION:

; APPLICANT: Wood, Keith V.

; APPLICANT: Hall, Mary P.

; APPLICANT: Promega Corporation

; TITLE OF INVENTION: THERMOSTABLE LUCIFERASES AND METHODS OF PRODUCTION

; FILE REFERENCE: 341.006US1

; CURRENT APPLICATION NUMBER: US/09/838,469

; PRIOR FILING DATE: 2001-04-19

; PRIOR APPLICATION NUMBER: US/09/156,946

; PRIOR FILING DATE: 1998-09-18

; NUMBER OF SEQ ID NOS: 41

; SOFTWARE: Patent In Ver. 2.0

; SEQ ID NO 28

; LENGTH: 548

; TYPE: PRT

; ORGANISM: Beetle

US-09-838-469-28

Query Match 99.4%; Score 2805; DB 10; Length 548;
Best Local Similarity 99.3%; Pred. No. 2.4e-263;
Matches 544; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 MENNDENIVGPEPPYPIEESGAGQLRKYMDRYAKLGAIAFTNALTGVDTYTAAYLE 60

DB 1 MENNDENIVGPEPPYPIEESGAGQLRKYMDRYAKLGAIAFTNALTGVDTYTAAYLE 60

QY 61 KSCCLGEALKNYGLVWDGRIALCSECEBEFFIPVLAGLFGVGVAPTNIEYTLRELHVSL 120

DB 61 KSCCLGEALKNYGLVWDGRIALCSECEBEFFIPVLAGLFGVGVAPTNIEYTLRELHVSL 120

QY 121 GISKPTIVFSSKGLDKVITVQKTVTAITIVILDSKVDYRGVQSMDFIKKNTPOGFKG 180

DB 121 GISKPTIVFSSKGLDKVITVQKTVTAITIVILDSKVDYRGVQSMDFIKKNTPOGFKG 180

QY 181 SSFKTVEVNRKEQVALIMNSGSGTGLPKGVQLTHENLVTRFSHARDDPIYGNVSPGTAIL 240

DB 181 SSFKTVEVNRKEQVALIMNSGSGTGLPKGVQLTHENLVTRFSHARDDPIYGNVSPGTAIL 240

QY 241 TVVPFHGFMFTTGLYLTGCGFRIVMLTKFDEBTFKLTQDYKCSSVILVPTLFAILNRS 300

DB 241 TVVPFHGFMFTTGLYLTGCGFRIVMLTKFDEBTFKLTQDYKCSSVILVPTLFAILNRS 300

QY 301 ELLDKYDLNVLVETASGAPLSKEIGAVARRNLPVQRQVGLTETTSAILIITPEGDDK 360

DB 301 ELLDKYDLNVLVETASGAPLSKEIGAVARRNLPVQRQVGLTETTSAILIITPEGDDK 360

QY 361 PGASGKVPLFKAKVIDLDTKKTLPNRRGEVCVKGPMLMKGVNDPNEATREIIDEAGWL 420

DB 361 PGASGKVPLFKAKVIDLDTKKTLPNRRGEVCVKGPMLMKGVNDPNEATREIIDEAGWL 420

QY 421 HTGDIGYDEEKHFFIVDRLSLIKVKGYQVPPAELESVLLQHPNIFDAGVAGVDPDIAG 480

DB 421 HTGDIGYDEEKHFFIVDRLSLIKVKGYQVPPAELESVLLQHPNIFDAGVAGVDPDIAG 480

DB 421 HTGDIGYDEEKHFFIVDRLSLIKVKGYQVPPAELESVLLQHPNIFDAGVAGVDPDIAG 480

QY 481 ELPGAVVVLKKGSKTEKEVMDYVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540

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QY 541 LKKPVAKM 548

DB 541 LKKPVAKM 548

RESULT 2

US-10-378-168-28

; Sequence 28, Application US/10378168

; Publication No. US20030232404A1

GENERAL INFORMATION:

; APPLICANT: Wood, Keith V.

; APPLICANT: Hall, Mary P.

; TITLE OF INVENTION: Thermostable luciferases and methods of

; FILE REFERENCE: 341.012US1

; CURRENT APPLICATION NUMBER: US/10/378,168

; PRIOR FILING DATE: 2003-02-28

; PRIOR APPLICATION NUMBER: US/09/396,154

; PRIOR FILING DATE: 1999-09-15

; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 09/156,946

; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18

; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: PCT/US98/19494

; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18

; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 60/059,379

; PRIOR FILING DATE: EARLIER FILING DATE: 1997-09-19

; NUMBER OF SEQ ID NOS: 93

; SOFTWARE: FastSeq for Windows Version 3.0

; SEQ ID NO 28

; LENGTH: 548

; TYPE: PRT

; ORGANISM: Luciola lateralis

US-10-378-168-28

Query Match 99.4%; Score 2805; DB 15; Length 548;
Best Local Similarity 99.3%; Pred. No. 2.4e-263;
Matches 544; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 MENNDENIVGPEPPYPIEESGAGQLRKYMDRYAKLGAIAFTNALTGVDTYTAAYLE 60

DB 1 MENNDENIVGPEPPYPIEESGAGQLRKYMDRYAKLGAIAFTNALTGVDTYTAAYLE 60

QY 61 KSCCLGEALKNYGLVWDGRIALCSECEBEFFIPVLAGLFGVGVAPTNIEYTLRELHVSL 120

DB 61 KSCCLGEALKNYGLVWDGRIALCSECEBEFFIPVLAGLFGVGVAPTNIEYTLRELHVSL 120

QY 121 GISKPTIVFSSKGLDKVITVQKTVTAITIVILDSKVDYRGVQSMDFIKKNTPOGFKG 180

DB 121 GISKPTIVFSSKGLDKVITVQKTVTAITIVILDSKVDYRGVQSMDFIKKNTPOGFKG 180

QY 181 SSFKTVEVNRKEQVALIMNSGSGTGLPKGVQLTHENLVTRFSHARDDPIYGNVSPGTAIL 240

DB 181 SSFKTVEVNRKEQVALIMNSGSGTGLPKGVQLTHENLVTRFSHARDDPIYGNVSPGTAIL 240

QY 241 TVVPFHGFMFTTGLYLTGCGFRIVMLTKFDEBTFKLTQDYKCSSVILVPTLFAILNRS 300

DB 241 TVVPFHGFMFTTGLYLTGCGFRIVMLTKFDEBTFKLTQDYKCSSVILVPTLFAILNRS 300

QY 301 ELLDKYDLNVLVETASGAPLSKEIGAVARRNLPVQRQVGLTETTSAILIITPEGDDK 360

DB 301 ELLDKYDLNVLVETASGAPLSKEIGAVARRNLPVQRQVGLTETTSAILIITPEGDDK 360

QY 361 PGASGKVPLFKAKVIDLDTKKTLPNRRGEVCVKGPMLMKGVNDPNEATREIIDEAGWL 420

DB 361 PGASGKVPLFKAKVIDLDTKKTLPNRRGEVCVKGPMLMKGVNDPNEATREIIDEAGWL 420

QY 421 HTGDIGYDEEKHFFIVDRLSLIKVKGYQVPPAELESVLLQHPNIFDAGVAGVDPDIAG 480

DB 421 HTGDIGYDEEKHFFIVDRLSLIKVKGYQVPPAELESVLLQHPNIFDAGVAGVDPDIAG 480

Db 421 HTGDIYGYDEKXFFIVDRILSLIKYKGYQVPPAELESVLLQHPNIFDAGVAGVDPPIAG 480
QY 481 ELPAGVVVLKKGKSMTEKVMYVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
Db 481 ELPAGVVVLKKGKSMTEKVMYVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
QY 541 LKXPKVAKM 548
Db 541 LKXPKVAKM 548

RESULT 3
US-09-838-469-27
; Sequence 27, Application US/09838469
; Publication No. US20030068801A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Hall, Mary P.
; TITLE OF INVENTION: THERMOSTABLE LUCIFERASES AND METHODS OF PRODUCTION
; FILE REFERENCE: 341.006US1
; CURRENT APPLICATION NUMBER: US/09/838,469
; CURRENT FILING DATE: 2001-04-19
; PRIOR APPLICATION NUMBER: US/09/156,946
; PRIOR FILING DATE: 1998-09-18
; NUMBER OF SEQ ID NOS: 41
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 27
; LENGTH: 548
; TYPE: PRT
; ORGANISM: Beetle
US-09-838-469-27

Query Match 95.1%; Score 2684; DB 10; Length 548;
Best Local Similarity 93.4%; Pred. No. 1.4e-251;
Matches 512; Conservative 26; Mismatches 10; Indels 0; Gaps 0;

QY 1 MENMENDENIYGPFPPIEESGAGALRYKMDRYAKLGAIAFTNALTGVDYTYAEYLE 60
Db 1 MENMENDENIYVGPFPPIEESGAGTQLRKMYERYAKLGAIAFTNAVTGVDYSYAEYLE 60
QY 61 KSCCLGEALKNYGLVVDGRIALCSENCEEFFIPVLAGLFIGVGVAPNTNEIYTLRELHVSL 120
Db 61 KSCCLGKALQNYGLVVDGRIALCSENCEEFFIPVLAGLFIGVGVAPNTNEIYTLRELHVSL 120
QY 121 GISKPTIVFSSKKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQSMDFIKKNTPPQPGK 180
Db 121 GISKPTIVFSSKKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQCLDTFKRNTPPGFOA 180
QY 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVOLTHENLVTRFSHARDPIYGNQVSPGTAIL 240
Db 181 SSFKTVEVDRKEQVALIMNSSGSTGLPKGVOLTHENLVTRFSHARDPIYGNQVSPGTAVL 240
QY 241 TVVPFHGFGMFTTGLYLCGFRVVMVLTKFDEETFLKTLQDYKCSVILVPTLFAILNRS 300
Db 241 TVVPFHGFGMFTTGLYLCGFRVVMVLTKFDEETFLKTLQDYKCSVILVPTLFAILNRS 300
QY 301 ELLDKYDLSNLVEIASGAPLSKEIGAVARRNLPQVRQGYGLTETTSAILITPEGDDK 360
Db 301 ELLNKYDLSNLVEIASGAPLSKEVGEAVARRNLPQVRQGYGLTETTSAILITPEGDDK 360
QY 361 PGASGKVPLFKAKVIDLDTKTLGPNRRGEVCVKGPMKGYVDNPEATREIIDEEGWL 420
Db 361 PGASGKVPLFKAKVIDLDTKTLGPNRRGEVCVKGPMKGYVNNPEATKELIDEEGWL 420
QY 421 HTGDIYGYDEKXFFIVDRILSLIKYKGYQVPPAELESVLLQHPNIFDAGVAGVDPPIAG 480
Db 421 HTGDIYGYDEKXFFIVDRILSLIKYKGYQVPPAELESVLLQHPNIFDAGVAGVDPPIAG 480
QY 481 ELPAGVVVLKKGKSMTEKVMYVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
Db 481 ELPAGVVVLESCKNTEKVMYVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540

QY 541 LKXPKVAKM 548
Db 541 LKXPKVAKM 548

RESULT 4
US-10-378-168-27
; Sequence 27, Application US/10378168
; Publication No. US20030232404A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Hall, Mary P.
; TITLE OF INVENTION: Thermostable luciferases and methods of
; FILE REFERENCE: 341.012US1
; CURRENT APPLICATION NUMBER: US/10/378,168
; CURRENT FILING DATE: 2003-02-28
; PRIOR APPLICATION NUMBER: US/09/396,154
; PRIOR FILING DATE: 1999-09-15
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 09/156,946
; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: PCT/US98/19494
; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 60/059,379
; PRIOR FILING DATE: EARLIER FILING DATE: 1997-09-19
; NUMBER OF SEQ ID NOS: 93
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 27
; LENGTH: 548
; TYPE: PRT
; ORGANISM: Luciola cruciata
US-10-378-168-27

Query Match 95.1%; Score 2684; DB 15; Length 548;
Best Local Similarity 93.4%; Pred. No. 1.4e-251;
Matches 512; Conservative 26; Mismatches 10; Indels 0; Gaps 0;

QY 1 MENMENDENIYGPFPPIEESGAGALRYKMDRYAKLGAIAFTNALTGVDYTYAEYLE 60
Db 1 MENMENDENIYVGPFPPIEESGAGTQLRKMYERYAKLGAIAFTNAVTGVDYSYAEYLE 60
QY 61 KSCCLGEALKNYGLVVDGRIALCSENCEEFFIPVLAGLFIGVGVAPNTNEIYTLRELHVSL 120
Db 61 KSCCLGKALQNYGLVVDGRIALCSENCEEFFIPVLAGLFIGVGVAPNTNEIYTLRELHVSL 120
QY 121 GISKPTIVFSSKKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQSMDFIKKNTPPQPGK 180
Db 121 GISKPTIVFSSKKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQCLDTFKRNTPPGFOA 180
QY 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVOLTHENLVTRFSHARDPIYGNQVSPGTAIL 240
Db 181 SSFKTVEVDRKEQVALIMNSSGSTGLPKGVOLTHENLVTRFSHARDPIYGNQVSPGTAVL 240
QY 241 TVVPFHGFGMFTTGLYLCGFRVVMVLTKFDEETFLKTLQDYKCSVILVPTLFAILNRS 300
Db 241 TVVPFHGFGMFTTGLYLCGFRVVMVLTKFDEETFLKTLQDYKCSVILVPTLFAILNRS 300
QY 301 ELLDKYDLSNLVEIASGAPLSKEIGAVARRNLPQVRQGYGLTETTSAILITPEGDDK 360
Db 301 ELLNKYDLSNLVEIASGAPLSKEVGEAVARRNLPQVRQGYGLTETTSAILITPEGDDK 360
QY 361 PGASGKVPLFKAKVIDLDTKTLGPNRRGEVCVKGPMKGYVDNPEATREIIDEEGWL 420
Db 361 PGASGKVPLFKAKVIDLDTKTLGPNRRGEVCVKGPMKGYVNNPEATKELIDEEGWL 420
QY 421 HTGDIYGYDEKXFFIVDRILSLIKYKGYQVPPAELESVLLQHPNIFDAGVAGVDPPIAG 480
Db 421 HTGDIYGYDEKXFFIVDRILSLIKYKGYQVPPAELESVLLQHPNIFDAGVAGVDPPIAG 480
QY 481 ELPAGVVVLKKGKSMTEKVMYVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
Db 481 ELPAGVVVLESCKNTEKVMYVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540

QY 541 LKPVAKM 548
 Db 541 LKPVAKM 548

RESULT 5

US-09-838-469-29
 ; Sequence 29, Application US/09838469
 ; Publication NO. US20030068601A1
 ; GENERAL INFORMATION:
 ; APPLICANT: Wood, Keith V.
 ; APPLICANT: Hall, Mary P.
 ; APPLICANT: Promega Corporation
 ; TITLE OF INVENTION: THERMOSTABLE LUCIFERASES AND METHODS OF PRODUCTION
 ; CURRENT APPLICATION NUMBER: US/09/838,469
 ; FILE REFERENCE: 341.006US1
 ; PRIOR FILING DATE: 2001-04-19
 ; PRIOR APPLICATION NUMBER: US/09/156,946
 ; PRIOR FILING DATE: 1998-09-18
 ; NUMBER OF SEQ ID NOS: 41
 ; SOFTWARE: PatentIn Ver. 2.0
 ; SEQ ID NO 29
 ; LENGTH: 548
 ; TYPE: PRT
 ; ORGANISM: Beetle
 US-09-838-469-29

Query Match 82.7%; Score 2335.5; DB 10; Length 548;
 Best Local Similarity 81.7%; Pred. No. 1.1e-217;
 Matches 446; Conservative 47; Mismatches 52; Indels 1; Gaps 1;

QY 4 MENDENIYGPPEFYPIEESGAGLQKRYMDRYAKLGAIAFTNALTGVDYTYAEYLEKSC 63
 Db 3 MEKENVYVGLPYPPIEESGAGLQKRYMDRYAKLGAIAFTNALTGVDYTYAEYLEKSC 62

QY 64 CLGELKKNYGLVVDGRITACSENCEEEFFIPVLAGLFGVGVAPTNEYITRELVHSLGIS 123
 Db 63 RLAEAMKNGKMPKEEHLALCSENCEEEFFIPVLAGLFGVGVAPTNEYITRELVHSLGIS 122

QY 124 KPTIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGQSDMNIKKNTPQGFKGSF 183
 Db 123 OPTIVFSSRKLKPLVQKTVTCIKKIVILDSKVNFGHDCMETFIKKHVELGFQPSF 182

QY 184 KTEVE-NRKEQVALIMNSSGSTGLPKGVQLTHENLVTRFSHARDPIYGNQVSPGTAILTV 242
 Db 183 VPIDVKNRKQHVALLMNSSGSTGLPKGVRIITHEGAVTRFSHAKDPIYGNQVSPGTAILTV 242

QY 243 VPFHGFGMTTLGYLTCGPRIVMLTKFDETEFLKTLQDYKCSVILVPTLPAILNRSEL 302
 Db 243 VPFHGFGMTTLGYFACGYRVVMLTKFDETEFLKTLQDYKCTSVILVPTLPAILNRSEL 302

QY 303 LDKYDLSNLVEIASGGAPLSKEIGEAVARRFNLPGVRQGYGLTETTSALITPEGDDKPG 362
 Db 303 IDKFDLSNLTEIASGGAPLAKVEGEAVARRFNLPGVRQGYGLTETTSALITPEGDDKPG 362

QY 363 ASGKVVPLPKAKVIDLDTKTLGNRRGEVCVKGPMLKGYVDNPEATREIIDEGLWHT 422
 Db 363 ASGKVVPLFKVKVIDLDTKTLGNRRGEICVKGPSLMGYNNPATRETIIDEGLWHT 422

QY 423 GDIGYDEEHFFIVDLKSLIKYQVPPAELESVLLQHPNIFDAGVAGVDPDPADEL 482
 Db 423 GDIGYDEEHFFIVDLKSLIKYQVPPAELESVLLQHPNIFDAGVAGVDPDPADEL 482

QY 483 PGAVVVLKKGKSMTEKEVMDYVASOVSNAKRLGGVRFVDEVPKLTGKIDKATREILK 542
 Db 483 PGAVVMEKGTMTKEIIVDVYNSQVNVNHRKLRGGVRFVDEVPKLTGKIDKATREILK 542

QY 543 KPVAKM 548
 Db 543 KPQAKM 548

RESULT 6

US-10-378-168-29
 ; Sequence 29, Application US/10378168
 ; Publication NO. US20030232404A1
 ; GENERAL INFORMATION:
 ; APPLICANT: Wood, Keith V.
 ; APPLICANT: Hall, Mary P.
 ; TITLE OF INVENTION: Thermostable luciferases and methods of
 ; TITLE OF INVENTION: production
 ; FILE REFERENCE: 341.012US1
 ; CURRENT APPLICATION NUMBER: US/10/378,168
 ; CURRENT FILING DATE: 2003-02-28
 ; PRIOR APPLICATION NUMBER: US/09/396,154
 ; PRIOR FILING DATE: 1999-09-15
 ; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 09/156,946
 ; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
 ; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: PCT/US98/19494
 ; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
 ; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 60/059,379
 ; PRIOR FILING DATE: EARLIER FILING DATE: 1997-09-19
 ; NUMBER OF SEQ ID NOS: 93
 ; SOFTWARE: FastSeq for Windows Version 3.0
 ; SEQ ID NO 29
 ; LENGTH: 548
 ; TYPE: PRT
 ; ORGANISM: Luciola mingrelia
 US-10-378-168-29

Query Match 82.7%; Score 2335.5; DB 15; Length 548;
 Best Local Similarity 81.7%; Pred. No. 1.1e-217;
 Matches 446; Conservative 47; Mismatches 52; Indels 1; Gaps 1;

QY 4 MENDENIYGPPEFYPIEESGAGLQKRYMDRYAKLGAIAFTNALTGVDYTYAEYLEKSC 63
 Db 3 MEKENVYVGLPYPPIEESGAGLQKRYMDRYAKLGAIAFTNALTGVDYTYAEYLEKSC 62

QY 64 CLGELKKNYGLVVDGRITACSENCEEEFFIPVLAGLFGVGVAPTNEYITRELVHSLGIS 123
 Db 63 RLAEAMKNGKMPKEEHLALCSENCEEEFFIPVLAGLFGVGVAPTNEYITRELVHSLGIS 122

QY 124 KPTIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGQSDMNIKKNTPQGFKGSF 183
 Db 123 OPTIVFSSRKLKPLVQKTVTCIKKIVILDSKVNFGHDCMETFIKKHVELGFQPSF 182

QY 184 KTEVE-NRKEQVALIMNSSGSTGLPKGVQLTHENLVTRFSHARDPIYGNQVSPGTAILTV 242
 Db 183 VPIDVKNRKQHVALLMNSSGSTGLPKGVRIITHEGAVTRFSHAKDPIYGNQVSPGTAILTV 242

QY 243 VPFHGFGMTTLGYLTCGPRIVMLTKFDETEFLKTLQDYKCSVILVPTLPAILNRSEL 302
 Db 243 VPFHGFGMTTLGYFACGYRVVMLTKFDETEFLKTLQDYKCTSVILVPTLPAILNRSEL 302

QY 303 LDKYDLSNLVEIASGGAPLSKEIGEAVARRFNLPGVRQGYGLTETTSALITPEGDDKPG 362
 Db 303 IDKFDLSNLTEIASGGAPLAKVEGEAVARRFNLPGVRQGYGLTETTSALITPEGDDKPG 362

QY 363 ASGKVVPLPKAKVIDLDTKTLGNRRGEVCVKGPMLKGYVDNPEATREIIDEGLWHT 422
 Db 363 ASGKVVPLFKVKVIDLDTKTLGNRRGEICVKGPSLMGYNNPATRETIIDEGLWHT 422

QY 423 GDIGYDEEHFFIVDLKSLIKYQVPPAELESVLLQHPNIFDAGVAGVDPDPADEL 482
 Db 423 GDIGYDEEHFFIVDLKSLIKYQVPPAELESVLLQHPNIFDAGVAGVDPDPADEL 482

QY 483 PGAVVVLKKGKSMTEKEVMDYVASOVSNAKRLGGVRFVDEVPKLTGKIDKATREILK 542
 Db 483 PGAVVMEKGTMTKEIIVDVYNSQVNVNHRKLRGGVRFVDEVPKLTGKIDKATREILK 542

QY 543 KPVAKM 548
 Db 543 KPQAKM 548

RESULT 7

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US-09-838-469-32
; Sequence 32, Application US/09838469
; Publication No. US2003068801A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Hall, Mary P.
; APPLICANT: Promega Corporation
; TITLE OF INVENTION: THERMOSTABLE LUCIFERASES AND METHODS OF PRODUCTION
; FILE REFERENCE: 341.008US1
; CURRENT APPLICATION NUMBER: US/09/838,469
; CURRENT FILING DATE: 2001-04-19
; PRIOR APPLICATION NUMBER: US/09/156,946
; PRIOR FILING DATE: 1998-09-18
; NUMBER OF SEQ ID NOS: 41
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 32
; LENGTH: 547
; TYPE: PRT
; ORGANISM: Beetle
US-09-838-469-32

Query Match          69.6%; Score 1965.5; DB 10; Length 547;
Best Local Similarity 69.0%; Pred. No. 1.1e-181;
Matches 372; Conservative 76; Mismatches 90; Indels 1; Gaps 1;

QY      4 MENDENIVGPEPFYPIEESGAGALRYKMDRYAKL-GAIAFTNALTGVDYTYAEYLEKS 62
Db      1 MEDAKNIMHGPAFFYPLEDGTAGEQLHKAMKRYAQVPGTIAFTDAHAENVITYSEYFEMA 60
QY      63 CCLGEALKNYGLVVDGRIALCSENCBFFIPVLAGLFIGVGVAPTNEIYTLRELVHSLGI 122
Db      61 CRLAETMKRYGLGLQHIIAVCSNSLOFFMPVCGALFIGVGVASTNDIYNERELYNLSLI 120
QY      123 SKPTIVFSSKGLDKVITVQKTVAITKIVILDSKVDYRGYQSMDFIKKNTPOGFKGSS 182
Db      121 SQPTIVSCSKALOKILGVQKKLPITQKIVILDSREDYMGKQSMYSFIESHLPAGEFYD 180
QY      183 FKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENVLRFSHARDPIYGNQVSPGTAILTV 242
Db      181 YIPDSFDRATATALIMNSSGSTGLPKGVQLTHENVLRFSHARDPIYGNQVSPGTAILTV 240
QY      243 VPFHGFQFMFTTGLYTCGPRIVMLTKDEBETLKLQDYKCSSVILVPTLFAILNRSEL 302
Db      241 IPFHGFQFMFTTGLYTCGPRIVMLTKDEBETLKLQDYKCSSVILVPTLFAILNRSEL 300
QY      303 LDKYDLSNLVEIASGGAPLSKEIGEAVARRFNLPVGRQGYGLTETTSAILIITPEGDDKPG 362
Db      301 VDKYDLSNLVEIASGGAPLSKEIGEAVARRFNLPVGRQGYGLTETTSAILIITPEGDDKPG 360
QY      363 ASGVVPLPKAVYDIDTKTLGNRGEVCKGPMKGVNDPEATREIIDEGLWHT 422
Db      361 ACQKVPFFSAKIVDLDTGKTLGNRGEVCKGPMKGVNDPEATREIIDEGLWHT 420
QY      423 GDIGYVDEEKHFFIVDRILKSLIKYGVQVPPAELESVLLQHPNIFDAGVAGVDPDIAGEL 482
Db      421 GDIAIYDKDGHFFIVDRILKSLIKYGVQVPPAELESVLLQHPNIFDAGVAGVDPDIAGEL 480
QY      483 PGAVVVLKKGKSMTEKEVMDYVASQVSNAKRLRGGRFVDEVPKGLTGKIDGKAIREIL 541
Db      481 PAAVVVLEEGKTMTEQEVMDYVAGQVTSKRLRGGRFVDEVPKGLTGKIDGKAIREIL 539

RESULT 8
US-10-378-168-32
; Sequence 32, Application US/10378168
; Publication No. US2003023240A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Hall, Mary P.
; TITLE OF INVENTION: Thermostable luciferases and methods of
; FILE REFERENCE: 341.012US1
; CURRENT APPLICATION NUMBER: US/10/378,168

US-09-838-469-32
; Sequence 32, Application US/09838469
; Publication No. US2003068801A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Hall, Mary P.
; APPLICANT: Promega Corporation
; TITLE OF INVENTION: THERMOSTABLE LUCIFERASES AND METHODS OF PRODUCTION
; FILE REFERENCE: 341.008US1
; CURRENT APPLICATION NUMBER: US/09/838,469
; CURRENT FILING DATE: 2001-04-19
; PRIOR APPLICATION NUMBER: US/09/156,946
; PRIOR FILING DATE: 1998-09-18
; NUMBER OF SEQ ID NOS: 41
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 32
; LENGTH: 547
; TYPE: PRT
; ORGANISM: Beetle
US-09-838-469-32

Query Match          69.6%; Score 1965.5; DB 10; Length 547;
Best Local Similarity 69.0%; Pred. No. 1.1e-181;
Matches 372; Conservative 76; Mismatches 90; Indels 1; Gaps 1;

QY      4 MENDENIVGPEPFYPIEESGAGALRYKMDRYAKL-GAIAFTNALTGVDYTYAEYLEKS 62
Db      1 MEDAKNIMHGPAFFYPLEDGTAGEQLHKAMKRYAQVPGTIAFTDAHAENVITYSEYFEMA 60
QY      63 CCLGEALKNYGLVVDGRIALCSENCBFFIPVLAGLFIGVGVAPTNEIYTLRELVHSLGI 122
Db      61 CRLAETMKRYGLGLQHIIAVCSNSLOFFMPVCGALFIGVGVASTNDIYNERELYNLSLI 120
QY      123 SKPTIVFSSKGLDKVITVQKTVAITKIVILDSKVDYRGYQSMDFIKKNTPOGFKGSS 182
Db      121 SQPTIVSCSKALOKILGVQKKLPITQKIVILDSREDYMGKQSMYSFIESHLPAGEFYD 180
QY      183 FKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENVLRFSHARDPIYGNQVSPGTAILTV 242
Db      181 YIPDSFDRATATALIMNSSGSTGLPKGVQLTHENVLRFSHARDPIYGNQVSPGTAILTV 240
QY      243 VPFHGFQFMFTTGLYTCGPRIVMLTKDEBETLKLQDYKCSSVILVPTLFAILNRSEL 302
Db      241 IPFHGFQFMFTTGLYTCGPRIVMLTKDEBETLKLQDYKCSSVILVPTLFAILNRSEL 300
QY      303 LDKYDLSNLVEIASGGAPLSKEIGEAVARRFNLPVGRQGYGLTETTSAILIITPEGDDKPG 362
Db      301 VDKYDLSNLVEIASGGAPLSKEIGEAVARRFNLPVGRQGYGLTETTSAILIITPEGDDKPG 360
QY      363 ASGVVPLPKAVYDIDTKTLGNRGEVCKGPMKGVNDPEATREIIDEGLWHT 422
Db      361 ACQKVPFFSAKIVDLDTGKTLGNRGEVCKGPMKGVNDPEATREIIDEGLWHT 420
QY      423 GDIGYVDEEKHFFIVDRILKSLIKYGVQVPPAELESVLLQHPNIFDAGVAGVDPDIAGEL 482
Db      421 GDIAIYDKDGHFFIVDRILKSLIKYGVQVPPAELESVLLQHPNIFDAGVAGVDPDIAGEL 480
QY      483 PGAVVVLKKGKSMTEKEVMDYVASQVSNAKRLRGGRFVDEVPKGLTGKIDGKAIREIL 541
Db      481 PAAVVVLEEGKTMTEQEVMDYVAGQVTSKRLRGGRFVDEVPKGLTGKIDGKAIREIL 539

RESULT 9
US-10-072-012-329
; Sequence 329, Application US/10072012
; Publication No. US20040033493A1
; GENERAL INFORMATION:
; APPLICANT: Tchernev, Velizar
; APPLICANT: Spytek, Kimberly
; APPLICANT: Zernhusen, Bryan
; APPLICANT: Patturajan, Meera
; APPLICANT: Shimkets, Richard
; APPLICANT: Li, Li
; APPLICANT: Gangolli, Esha
; APPLICANT: Padigaru, Muralidhara
; APPLICANT: Anderson, David W.
; APPLICANT: Rastelli, Luca

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; APPLICANT: Miller, Charles E.
; APPLICANT: Gerlach, Valerie
; APPLICANT: Taupier Jr, Raymond J.
; APPLICANT: Gusev, Vladimir Y.
; APPLICANT: Coleman, Steven D.
; APPLICANT: Wolenc, Adam R.
; APPLICANT: Pena, Carol E. A.
; APPLICANT: Furtak, Katarzyna
; APPLICANT: Grosse, William M.
; APPLICANT: Alsobrook II, John P.
; APPLICANT: Lepley, Denise M.
; APPLICANT: Rieger, Daniel K.
; APPLICANT: Burgess, Catherine E.
; TITLE OF INVENTION: Proteins and Nucleic Acids Encoding Same
; FILE REFERENCE: 21402-258
; CURRENT APPLICATION NUMBER: US/10/072,012
; PRIOR FILING DATE: 2002-01-31
; PRIOR APPLICATION NUMBER: 60/265,102
; PRIOR FILING DATE: 2001-01-30
; PRIOR APPLICATION NUMBER: 60/265,514
; PRIOR FILING DATE: 2001-01-31
; PRIOR APPLICATION NUMBER: 60/265,517
; PRIOR FILING DATE: 2001-01-31
; PRIOR APPLICATION NUMBER: 60/265,412
; PRIOR FILING DATE: 2001-01-31
; PRIOR APPLICATION NUMBER: 60/265,395
; PRIOR FILING DATE: 2001-01-31
; PRIOR APPLICATION NUMBER: 60/266,406
; PRIOR FILING DATE: 2001-02-02
; PRIOR APPLICATION NUMBER: 60/266,767
; PRIOR FILING DATE: 2001-02-05
; PRIOR APPLICATION NUMBER: 60/267,057
; PRIOR FILING DATE: 2001-02-07
; PRIOR APPLICATION NUMBER: 60/266,975
; PRIOR FILING DATE: 2001-02-07
; PRIOR APPLICATION NUMBER: 60/267,459
; PRIOR FILING DATE: 2001-02-08
; Remaining Prior Application data removed - See File Wrapper or PALM.
; NUMBER OF SEQ ID NOS: 1391
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 329
; LENGTH: 975
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: Synthetic
; OTHER INFORMATION: Construct
US-10-072-012-329

Query Match          69.3%; Score 1956.5; DB 12; Length 975;
Best Local Similarity 68.6%; Pred. No. 2.1e-180;
Matches 371; Conservative 74; Mismatches 95; Indels 1; Gaps 1;

QY 4 MENDENIYGPPEPPYPIEESGAGAKRKYMRYAKL-GAIAFTNALTGVDYTYAEYLEKS 62
Db 426 MEDAKNIKGPAPPYPLEDGTAGEQLHKMKRYALVPGTIAFTDAHIEVDITVAEYFEMS 485

QY 63 CCLGEALKNYGLVVDGRIALCSECEFFIPVLGALFIGVGAPTNIEIYTLRELHVSIGI 122
Db 486 VRLAEAMKRYGLNTNHRIVVCSSENSQOFFFMPVLGALFIGVAVAPANDIYNRELNSMGI 545

QY 123 SKPTIVFSSKKGLDKVITVQKTVAIKTIVILDSKVDYRGYQSMDFIKKNTPOGFKGSS 182
Db 546 SQPTVVFVSKKGLKILNVQKLPILQIKIIMDSKTDYQGFQSMYFTVTSHPPLPGNEVD 605

QY 183 FKTVENVRKEQVALIMNSSGSTGLPKGVQLTHENLVTRFSHARDPIYGNQVSPGTAILTV 242
Db 606 FVPESFDRDKTIALIMNSSGSTGLPKGVLPKHTACVRFSHARDPIFGNQIIPDPTAILSV 665

QY 243 VPFHHGFMETTLIGYLTGCGFRIYVLMKFDDETFELKTLQDYKCSSVILVPTLFAILNRSEL 302
Db 666 VPFHHGFMETTLIGYLTGCGFRIYVLMYRFEELFLRSIQDYKQSALLVPTLSPFFAKSTL 725

; APPLICANT: Miller, Charles E.
; APPLICANT: Gerlach, Valerie
; APPLICANT: Taupier Jr, Raymond J.
; APPLICANT: Gusev, Vladimir Y.
; APPLICANT: Coleman, Steven D.
; APPLICANT: Wolenc, Adam R.
; APPLICANT: Pena, Carol E. A.
; APPLICANT: Furtak, Katarzyna
; APPLICANT: Grosse, William M.
; APPLICANT: Alsobrook II, John P.
; APPLICANT: Lepley, Denise M.
; APPLICANT: Rieger, Daniel K.
; APPLICANT: Burgess, Catherine E.
; TITLE OF INVENTION: Proteins and Nucleic Acids Encoding Same
; FILE REFERENCE: 21402-258
; CURRENT APPLICATION NUMBER: US/10/072,012
; PRIOR FILING DATE: 2002-01-31
; PRIOR APPLICATION NUMBER: 60/265,102
; PRIOR FILING DATE: 2001-01-30
; PRIOR APPLICATION NUMBER: 60/265,514
; PRIOR FILING DATE: 2001-01-31
; PRIOR APPLICATION NUMBER: 60/265,517
; PRIOR FILING DATE: 2001-01-31
; PRIOR APPLICATION NUMBER: 60/265,412
; PRIOR FILING DATE: 2001-01-31
; PRIOR APPLICATION NUMBER: 60/265,395
; PRIOR FILING DATE: 2001-01-31
; PRIOR APPLICATION NUMBER: 60/266,406
; PRIOR FILING DATE: 2001-02-02
; PRIOR APPLICATION NUMBER: 60/266,767
; PRIOR FILING DATE: 2001-02-05
; PRIOR APPLICATION NUMBER: 60/267,057
; PRIOR FILING DATE: 2001-02-07
; PRIOR APPLICATION NUMBER: 60/266,975
; PRIOR FILING DATE: 2001-02-07
; PRIOR APPLICATION NUMBER: 60/267,459
; PRIOR FILING DATE: 2001-02-08
; Remaining Prior Application data removed - See File Wrapper or PALM.
; NUMBER OF SEQ ID NOS: 1391
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 329
; LENGTH: 975
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: Synthetic
; OTHER INFORMATION: Construct
US-10-072-012-329

Query Match          69.3%; Score 1956.5; DB 12; Length 975;
Best Local Similarity 68.6%; Pred. No. 2.1e-180;
Matches 371; Conservative 74; Mismatches 95; Indels 1; Gaps 1;

QY 4 MENDENIYGPPEPPYPIEESGAGAKRKYMRYAKL-GAIAFTNALTGVDYTYAEYLEKS 62
Db 426 MEDAKNIKGPAPPYPLEDGTAGEQLHKMKRYALVPGTIAFTDAHIEVDITVAEYFEMS 485

QY 63 CCLGEALKNYGLVVDGRIALCSECEFFIPVLGALFIGVGAPTNIEIYTLRELHVSIGI 122
Db 486 VRLAEAMKRYGLNTNHRIVVCSSENSQOFFFMPVLGALFIGVAVAPANDIYNRELNSMGI 545

QY 123 SKPTIVFSSKKGLDKVITVQKTVAIKTIVILDSKVDYRGYQSMDFIKKNTPOGFKGSS 182
Db 546 SQPTVVFVSKKGLKILNVQKLPILQIKIIMDSKTDYQGFQSMYFTVTSHPPLPGNEVD 605

QY 183 FKTVENVRKEQVALIMNSSGSTGLPKGVQLTHENLVTRFSHARDPIYGNQVSPGTAILTV 242
Db 606 FVPESFDRDKTIALIMNSSGSTGLPKGVLPKHTACVRFSHARDPIFGNQIIPDPTAILSV 665

QY 243 VPFHHGFMETTLIGYLTGCGFRIYVLMKFDDETFELKTLQDYKCSSVILVPTLFAILNRSEL 302
Db 666 VPFHHGFMETTLIGYLTGCGFRIYVLMYRFEELFLRSIQDYKQSALLVPTLSPFFAKSTL 725

; APPLICANT: Morphotek Inc.
; APPLICANT: Grasso, Luigi
; APPLICANT: Kline, J. Bradford
; APPLICANT: Nicolaides, Nicholas C.
; APPLICANT: Sasse, Philip M.
; TITLE OF INVENTION: Method for Generating Engineered Cells for Locus Specific Gene
; FILE REFERENCE: MG0003 US (MOR-0140)
; CURRENT APPLICATION NUMBER: US/10/348,074
; PRIOR FILING DATE: 2003-01-17
; PRIOR APPLICATION NUMBER: 60/349,565
; PRIOR FILING DATE: 2002-01-18
; NUMBER OF SEQ ID NOS: 47
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 47
; LENGTH: 895
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Chimera: Luc from Photinus pyralis; HYG from Escherichia coli
US-10-348-074-47

Query Match          69.1%; Score 1951.5; DB 14; Length 895;
Best Local Similarity 68.3%; Pred. No. 5.6e-180;
Matches 370; Conservative 75; Mismatches 96; Indels 1; Gaps 1;

QY 3 NVNENDIYGPPEPPYPIEESGAGAKRKYMRYAKL-GAIAFTNALTGVDYTYAEYLEK 61
Db 345 NMEDAKNIKGPAPPYPLEDGTAGEQLHKMKRYALVPGTIAFTDAHIEVNITVAEYFEM 404

QY 62 SCCLGEALKNYGLVVDGRIALCSECEFFIPVLGALFIGVGAPTNIEIYTLRELHVSIGI 121
Db 405 SVRLAEAMKRYGLNTNHRIVVCSSENSQOFFFMPVLGALFIGVAVAPANDIYNRELNSMGI 464

QY 122 SKPTIVFSSKKGLDKVITVQKTVAIKTIVILDSKVDYRGYQSMDFIKKNTPOGFKGSS 181
Db 465 ISQPTVVFVSKKGLKILNVQKLPILQIKIIMDSKTDYQGFQSMYFTVTSHPPLPGNEV 524

QY 192 SKTVENVRKEQVALIMNSSGSTGLPKGVQLTHENLVTRFSHARDPIYGNQVSPGTAILT 241
Db 525 DFVPSFDRDKTIALIMNSSGSTGLPKGVLPKHTACVRFSHARDPIFGNQIIPDPTAILS 584

QY 242 VPFHHGFMETTLIGYLTGCGFRIYVLMKFDDETFELKTLQDYKCSSVILVPTLFAILNRSE 301
Db 585 VPFHHGFMETTLIGYLTGCGFRIYVLMYRFEELFLRSIQDYKQSALLVPTLSPFFAKST 644

QY 302 LDKYDLSNLVETIASGAPLSKEIGEAVARFNLPGVROGYGLTETTSAILITPBGDDKPG 361

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Db 645 LIDKYDLSNLHEIASGAPLSKEVGAARFHLPGIIRGYGLTETTSAILITPEGDDXP 704
 Qy 362 GASGKVVPLFKAKVIDLDTKTGLPNRRGEVCVKGMKGVYDNPENATREIIDEGLH 421
 Db 705 GAVGKVVPEAKVVDLTGKTLGVNQRGELCVRGPMIMSGYVNNPEATNALIDKDWLH 764
 Qy 422 TGDIGYDEKHFIVDRILKSLIKYGYQVPAELESVLLQHPNIFDAGVAGVDPPIAGE 481
 Db 765 SGDIAYWDEHFFIVDRILKSLIKYGYQVPAELESVLLQHPNIFDAGVAGLDDDDAGE 824
 Qy 482 LPGAUVVLKKGSMTEKEVMDYVASQVSNAXRLRGVRFVDEVPKGLTGKIDGKAIREIL 541
 Db 825 LPAUVVLHGKMTKEIYDVYASQVTTAKKLGGVWFVDEVPKGLTGKLDARKIREIL 884
 Qy 542 KK 543
 Db 885 IK 886

RESULT 11
 US-09-838-469-31
 ; Sequence 31, Application US/09838469
 ; Publication No. US20030068801A1
 ; GENERAL INFORMATION:
 ; APPLICANT: Wood, Keith P.
 ; APPLICANT: Promega Corporation
 ; TITLE OF INVENTION: THERMOSTABLE LUCIFERASES AND METHODS OF PRODUCTION
 ; FILE REFERENCE: 341.006US1
 ; CURRENT APPLICATION NUMBER: US/09/838,469
 ; PRIOR FILING DATE: 2001-04-19
 ; PRIOR APPLICATION NUMBER: US/09/156,946
 ; PRIOR FILING DATE: 1998-09-18
 ; NUMBER OF SEQ ID NOS: 41
 ; SOFTWARE: Patent in Ver. 2.0
 ; SEQ ID NO 31
 ; LENGTH: 550
 ; TYPE: PRT
 ; ORGANISM: Beetle
 US-09-838-469-31

Query Match 68.9%; Score 1945.5; DB 10; Length 550;
 Best Local Similarity 68.2%; Pred. No. 9.5e-180;
 Matches 369; Conservative 75; Mismatches 96; Indels 1; Gaps 1;
 Qy 4 MENDENIVGPEPPFPIEBSAGALRKYMDRYAKL-GALAFNALTGVDYTYAEYLEKS 62
 Db 1 MEDAKNIKKGPAPFPLEDTAGEQLHKAMRYALVPGTIAFTDAHIEVNTYAEYFEMS 60
 Qy 63 CCLGEALKNYGLVVDGRIALCSNCEEFFIPVLAGLFIGVGVAPTNIEYTLRELHSLGI 122
 Db 61 VLAEAMKRYGLNTNHRIVVCSNSLQFFMPVLGALFIGVAVAPANDIYNERELNSMNI 120
 Qy 123 SKPTIVFSSKKGDLKVTIVKTIVTAITVILDSKVDYRGYQSMDFIKKNTPOGFKGSS 182
 Db 121 SOPTVVFVSKKGDLKILNVQKLPFIQKIIIMDSKTDYQGFQSMYTFVTSHPGNEVD 180
 Qy 183 FKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENLVTRFSHARDPIYGNQVSPGTAILTV 242
 Db 181 FVPSFDRDKTIALIMNSSGSTGLPKGVLPHTACVRFSHARDPIFGNQLIPDTAILSV 240
 Qy 243 VPFHGGFMFTTGLYTCGRIVMLTKFDEETFLKTDYKCSGVLLVPTLFAILNRSEL 302
 Db 241 VPFHGGFMFTTGLYLCGRFVLMYRFEELFLRSLODYKIQSALLVPTLFFAKSTL 300
 Qy 303 LDKYDLSNLHEIASGAPLSKEVGAARFHLPGIIRGYGLTETTSAILITPEGDDKPG 362
 Db 301 IDKYDLSNLHEIASGAPLSKEVGAARFHLPGIIRGYGLTETTSAILITPEGDDKPG 360
 Qy 363 ASGKVPPLFKAKVIDLDTKTGLPNRRGEVCVKGMKGVYDNPENATREIIDEGLH 422
 Db 361 AVGVKVPPEAKVVDLTGKTLGVNQRGELCVRGPMIMSGYVNNPEATNALIDKDWLH 420

Qy 423 GDICYDEKHFIVDRILKSLIKYGYQVPAELESVLLQHPNIFDAGVAGVDPPIAGE 482
 Db 421 GDIAWDEHFFIVDRILKSLIKYGYQVPAELESVLLQHPNIFDAGVAGLDDDDAGE 480
 Qy 483 PGAVVVLKKGSMTEKEVMDYVASQVSNAXRLRGVRFVDEVPKGLTGKIDGKAIREIL 542
 Db 481 PAAUVVLHGKMTKEIYDVYASQVTTAKKLGGVWFVDEVPKGLTGKLDARKIREIL 540
 Qy 543 K 543
 Db 541 K 541

RESULT 12
 US-10-348-074-34
 ; Sequence 34, Application US/10348074
 ; Publication No. US20030176386A1
 ; GENERAL INFORMATION:
 ; APPLICANT: Morphotek Inc.
 ; APPLICANT: Grasso, Luigi
 ; APPLICANT: Kline, J. Bradford
 ; APPLICANT: Nicolaides, Nicholas C.
 ; APPLICANT: Sasse, Philip M.
 ; TITLE OF INVENTION: Method for Generating Engineered Cells for Locus Specific Gene
 ; FILE REFERENCE: MG003 US (MOR-0140)
 ; CURRENT APPLICATION NUMBER: US/10/348,074
 ; CURRENT FILING DATE: 2003-01-17
 ; PRIOR APPLICATION NUMBER: 60/349,565
 ; PRIOR FILING DATE: 2002-01-18
 ; NUMBER OF SEQ ID NOS: 47
 ; SOFTWARE: Patent in version 3.2
 ; SEQ ID NO 34
 ; LENGTH: 550
 ; TYPE: PRT
 ; ORGANISM: Photinus pyralis
 US-10-348-074-34

Query Match 68.9%; Score 1945.5; DB 14; Length 550;
 Best Local Similarity 68.2%; Pred. No. 9.5e-180;
 Matches 369; Conservative 75; Mismatches 96; Indels 1; Gaps 1;
 Qy 4 MENDENIVGPEPPFPIEBSAGALRKYMDRYAKL-GALAFNALTGVDYTYAEYLEKS 62
 Db 1 MEDAKNIKKGPAPFPLEDTAGEQLHKAMRYALVPGTIAFTDAHIEVNTYAEYFEMS 60
 Qy 63 CCLGEALKNYGLVVDGRIALCSNCEEFFIPVLAGLFIGVGVAPTNIEYTLRELHSLGI 122
 Db 61 VLAEAMKRYGLNTNHRIVVCSNSLQFFMPVLGALFIGVAVAPANDIYNERELNSMNI 120
 Qy 123 SKPTIVFSSKKGDLKVTIVKTIVTAITVILDSKVDYRGYQSMDFIKKNTPOGFKGSS 182
 Db 121 SOPTVVFVSKKGDLKILNVQKLPFIQKIIIMDSKTDYQGFQSMYTFVTSHPGNEVD 180
 Qy 183 FKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENLVTRFSHARDPIYGNQVSPGTAILTV 242
 Db 181 FVPSFDRDKTIALIMNSSGSTGLPKGVLPHTACVRFSHARDPIFGNQLIPDTAILSV 240
 Qy 243 VPFHGGFMFTTGLYTCGRIVMLTKFDEETFLKTDYKCSGVLLVPTLFAILNRSEL 302
 Db 241 VPFHGGFMFTTGLYLCGRFVLMYRFEELFLRSLODYKIQSALLVPTLFFAKSTL 300
 Qy 303 LDKYDLSNLHEIASGAPLSKEVGAARFHLPGIIRGYGLTETTSAILITPEGDDKPG 362
 Db 301 IDKYDLSNLHEIASGAPLSKEVGAARFHLPGIIRGYGLTETTSAILITPEGDDKPG 360
 Qy 363 ASGKVPPLFKAKVIDLDTKTGLPNRRGEVCVKGMKGVYDNPENATREIIDEGLH 422
 Db 361 AVGVKVPPEAKVVDLTGKTLGVNQRGELCVRGPMIMSGYVNNPEATNALIDKDWLH 420
 Qy 423 GDICYDEKHFIVDRILKSLIKYGYQVPAELESVLLQHPNIFDAGVAGVDPPIAGE 482

Db 421 GDIAWDEDEHFFIVDRLSLKIYKGYQVAPAELESILLQHPNIFDAGVAGLPDDAGEL 480
QY 483 PGAVVVLKKGKSMTEKEVMDYVAVSQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIRILK 542
Db 481 PAAVVVLEHGKTMTEKEIYDVVASQVTTAKKLRGGVVFVDEVPKGLTGKIDGKAIRILI 540
QY 543 K 543
Db 541 K 541

RESULT 13
US-10-378-168-31
; Sequence 31, Application US/10378168
; Publication No. US20030232404A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Hall, Mary P.
; TITLE OF INVENTION: Thermostable luciferases and methods of
; production
; FILE REFERENCE: 341.012U81
; CURRENT APPLICATION NUMBER: US/10/378,168
; PRIOR FILING DATE: 2003-02-28
; PRIOR APPLICATION NUMBER: US/09/396,154
; PRIOR FILING DATE: 1999-09-15
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 09/156,946
; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: PCT/US98/19494
; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 60/059,379
; PRIOR FILING DATE: EARLIER FILING DATE: 1997-09-19
; NUMBER OF SEQ ID NOS: 93
; SOFTWARE: FastSEQ for Windows Version 3.0
; SEQ ID NO 31
; LENGTH: 550
; TYPE: PRT
; ORGANISM: Photinus pyralis
US-10-378-168-31

Query Match 68.9%; Score 1945.5; DB 15; Length 550;
Best Local Similarity 68.2%; Pred. No. 9.5e-180;
Matches 369; Conservative 75; Mismatches 96; Indels 1; Gaps 1;

QY 4 MENDENIVYGPPEPYPIEBSAGALRYKMDRYAKL-GAIAFTNALTGVDTTYAEYLEKS 62
Db 1 MEDAKNIKKGPAPFVPLEDGTAGEQLHKMKRYALVPGTIAFTDAHIEVNITAEYFEMS 60
QY 63 CCLGEALKNYGLVVDGRIALCSENCEFFIPVLGALFIGVGVAPTNEIYTLRELVHSLGI 122
Db 61 VRLAEMKRYGLNTHRIIVVCSNSLOFFMPVLGALFIGVAVAPANDIYNERELNSMNI 120
QY 123 SKPTIVSSKGLDKVITVQKTVAIKTIVILDSKVDYRGYQSMDFIKKNTPOGPKGSS 182
Db 121 SQTVPFVSKKGLQKILNVQKLPITQKIIIMDSKTDYQFQSMYFVTSHPGPFNEYD 180
QY 183 FKTVEVNRKEQVALIMNSSGSTGLPKGVOLTHENLVTRFSHARDPIYGNQVSPGTAILTV 242
Db 181 FVPSFDRDKTIALIMNSSGSTGLPKGVALPHRTACVRFSHARDPIFGNQTITAILSV 240
QY 243 VPFHGFGMTTGLYTCGPRIVMLTKFDEBETFLKTLQDYKCSSVILVPTLFAILNSEL 302
Db 241 VPFHGFGMTTGLYTCGPRVLMVRFEEELFLRSLODYKIOSALLVPTLFSFAKSTL 300
QY 303 LDKYDLSNLVLEIASGGAPLSKEIGEAVARFNLPVGRQGYGLTETTSALIIITPEGDDKPG 362
Db 301 IDKYDLSNLVLEIASGGAPLSKEIGEAVARFNLPVGRQGYGLTETTSALIIITPEGDDKPG 360
QY 363 ASGKVPLFKAIVDLDTKTKLTGNRRGEVCKVGMKMGYVDNPEATREIIDEEGWLHT 422
Db 361 AVGVVPPFEAKVVDLTGTGLGNORGEVCKVGMKMGYVDNPEATNALLDKDGLWLS 420
QY 423 GDIGYDEEHKHFIVDRLSLKIYKGYQVAPAELESILLQHPNIFDAGVAGLPDDAGEL 482

Db 421 GDIAWDEDEHFFIVDRLSLKIYKGYQVAPAELESILLQHPNIFDAGVAGLPDDAGEL 480
QY 483 PGAVVVLKKGKSMTEKEVMDYVAVSQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIRILK 542
Db 481 PAAVVVLEHGKTMTEKEIYDVVASQVTTAKKLRGGVVFVDEVPKGLTGKIDGKAIRILI 540
QY 543 K 543
Db 541 K 541

RESULT 14
US-10-122-706-4
; Sequence 4, Application US/10122706
; Publication No. US20030119012A1
; GENERAL INFORMATION:
; APPLICANT: Srinivasan, Maithreyan
; APPLICANT: Reifler, Michael
; TITLE OF INVENTION: Sulfurylase-Luciferase Fusion Proteins
; FILE REFERENCE: 21465-504
; CURRENT APPLICATION NUMBER: US/10/122,706
; PRIOR FILING DATE: 2002-07-01
; PRIOR APPLICATION NUMBER: 60/335,949
; PRIOR FILING DATE: 2001-10-30
; NUMBER OF SEQ ID NOS: 31
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 4
; LENGTH: 1172
; TYPE: PRT
; ORGANISM: Escherichia coli
US-10-122-706-4

Query Match 68.9%; Score 1945.5; DB 14; Length 1172;
Best Local Similarity 68.2%; Pred. No. 3.3e-179;
Matches 369; Conservative 75; Mismatches 96; Indels 1; Gaps 1;

QY 4 MENDENIVYGPPEPYPIEBSAGALRYKMDRYAKL-GAIAFTNALTGVDTTYAEYLEKS 62
Db 109 MEDAKNIKKGPAPFVPLEDGTAGEQLHKMKRYALVPGTIAFTDAHIEVNITAEYFEMS 168
QY 63 CCLGEALKNYGLVVDGRIALCSENCEFFIPVLGALFIGVGVAPTNEIYTLRELVHSLGI 122
Db 169 VRLAEMKRYGLNTHRIIVVCSNSLOFFMPVLGALFIGVAVAPANDIYNERELNSMNI 228
QY 123 SKPTIVSSKGLDKVITVQKTVAIKTIVILDSKVDYRGYQSMDFIKKNTPOGPKGSS 182
Db 229 SQTVPFVSKKGLQKILNVQKLPITQKIIIMDSKTDYQFQSMYFVTSHPGPFNEYD 288
QY 183 FKTVEVNRKEQVALIMNSSGSTGLPKGVOLTHENLVTRFSHARDPIYGNQVSPGTAILTV 242
Db 289 FVPSFDRDKTIALIMNSSGSTGLPKGVALPHRTACVRFSHARDPIFGNQTITAILSV 348
QY 243 VPFHGFGMTTGLYTCGPRIVMLTKFDEBETFLKTLQDYKCSSVILVPTLFAILNSEL 302
Db 349 VPFHGFGMTTGLYTCGPRVLMVRFEEELFLRSLODYKIOSALLVPTLFSFAKSTL 408
QY 303 LDKYDLSNLVLEIASGGAPLSKEIGEAVARFNLPVGRQGYGLTETTSALIIITPEGDDKPG 362
Db 409 IDKYDLSNLVLEIASGGAPLSKEIGEAVARFNLPVGRQGYGLTETTSALIIITPEGDDKPG 468
QY 363 ASGKVPLFKAIVDLDTKTKLTGNRRGEVCKVGMKMGYVDNPEATREIIDEEGWLHT 422
Db 469 AVGVVPPFEAKVVDLTGTGLGNORGEVCKVGMKMGYVDNPEATNALLDKDGLWLS 528
QY 423 GDIGYDEEHKHFIVDRLSLKIYKGYQVAPAELESILLQHPNIFDAGVAGLPDDAGEL 482
Db 529 GDIAWDEDEHFFIVDRLSLKIYKGYQVAPAELESILLQHPNIFDAGVAGLPDDAGEL 588
QY 483 PGAVVVLKKGKSMTEKEVMDYVAVSQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIRILK 542
Db 589 PAAVVVLEHGKTMTEKEIYDVVASQVTTAKKLRGGVVFVDEVPKGLTGKIDGKAIRILI 648
QY 543 K 543


```

; APPLICANT: Hall, Mary P.
; TITLE OF INVENTION: Thermostable luciferases and methods of
; FILE REFERENCE: 341.012US1
; CURRENT APPLICATION NUMBER: US/10/378,168
; CURRENT FILING DATE: 2003-02-28
; PRIOR APPLICATION NUMBER: US/09/396,154
; PRIOR FILING DATE: 1999-09-15
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 09/156,946
; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: PCT/US98/19494
; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 60/059,379
; PRIOR FILING DATE: EARLIER FILING DATE: 1997-09-19
; NUMBER OF SEQ ID NOS: 93
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 30
; LENGTH: 548
; TYPE: PRT
; ORGANISM: Pyrococcus miyako
; US-10-378-168-30

Query Match      67.0%; Score 1890; DB 10; Length 548;
Best Local Similarity 67.8%; Pred. No. 2.4e-174;
Matches 366; Conservative 72; Mismatches 100; Indels 2; Gaps 2;

QY 4 MEND-ENIVGPEPPYPIEGSAGALRKYMDRYAKL-GAIAFTNALTGVDYTYAEYLEK 61
Db 1 MEDDSKHIMGHRHSILWEDGTAGEQLHKAMKRYAVPGTIAFTDAEAENVITYSEYFEM 60

QY 62 SCCLGEALKNYGLVVDGRIALCSENCEEFFIPVLAGLFIGVGVAPTNEIYTLRELVHSLG 121
Db 61 SCRLAETMKRYGLGQHIAVCSETSLQFFMPVCGALFIGVGVAPTNDIYNERELYNLSF 120

QY 122 ISKPTIVFSSKGLDKVITVQKTVAIKTIVILDSKVYRGYQSMDFIKNTPOGFKGS 181
Db 121 ISOPTIVFCSKRALQKILGVQKLPVIOKIVILDSREDYMGKQSMYFIESHLPAFNEY 180

QY 182 SFKTVENRKEQVALIMNSSGSTGLPKGVOLTHENLVTRFSHARDPIYGNQVSPGTAIT 241
Db 181 DYPDPSDFRETATALLMNSSGSTGLPKGVOLTHMNVCFRSHCRDPVFGNQIIPDTAILT 240

QY 242 VPFPHGFGMTTLGYLTCGFRIVMLTKDEETFLKTLQDYKCSSVILVPTLFAILNRSE 301
Db 241 VIPFHHVFQMTTLGYLTCGFRIVMLYRFEELFLSLQDYKQSALLVPTLSPFAKST 300

QY 302 LLDKYDLNLNVEIASGAPLSKEIGEAVARFNLPGVRQGYGLTETTSAILIITPEGDDKP 361
Db 301 LVDKYDLNLNHEIASGAPLAKEVGEAVAKRFLPGIQRQGYGLTETTSAILIITPEGDDKP 360

QY 362 GASGKVVPLFAKVIDLTKTKTGNRRGVCVKGMKMGVYDNPENATREIIDEGWHL 421
Db 361 GACGKVVPFATAKIVDLTKTGLVNRGELCVKGMKMGVYNNPEATNALIDKDGWLH 420

QY 422 TGDIGYDEEKHFFIVDRKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDPAGE 481
Db 421 SGDIAYYDKDGHFFIVDRKSLIKYGYQVPPAELESILLQHPFIFDAGVAGIPDPAGE 480

QY 482 LPGAVVLLKKGKSMTEKVMYDVASQVSNKRLGGVRFVDEVPKGLTGKIDKKAIREIL 541
Db 481 LPAAVVLLGEGKMTQEVMYDVAGQVTSKRLGGVKFVDEVPKGLTGKIDSKRIREIL 540

RESULT 16
US-10-378-168-30
; Sequence 30, Application US/10378168
; Publication No. US2003022404A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Hall, Mary P.
; APPLICANT: Promega Corporation
; TITLE OF INVENTION: THERMOSTABLE LUCIFERASES AND METHODS OF PRODUCTION
; FILE REFERENCE: 341.006US1
; CURRENT APPLICATION NUMBER: US/09/838,469
; CURRENT FILING DATE: 2001-04-19
; PRIOR APPLICATION NUMBER: US/09/156,946
; PRIOR FILING DATE: 1998-09-18
; NUMBER OF SEQ ID NOS: 41
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 30
; LENGTH: 548
; TYPE: PRT
; ORGANISM: Beetle
; US-09-838-469-30

Query Match      67.0%; Score 1890; DB 10; Length 548;
Best Local Similarity 67.8%; Pred. No. 2.4e-174;
Matches 366; Conservative 72; Mismatches 100; Indels 2; Gaps 2;

QY 4 MEND-ENIVGPEPPYPIEGSAGALRKYMDRYAKL-GAIAFTNALTGVDYTYAEYLEK 61
Db 1 MEDDSKHIMGHRHSILWEDGTAGEQLHKAMKRYAVPGTIAFTDAEAENVITYSEYFEM 60

QY 62 SCCLGEALKNYGLVVDGRIALCSENCEEFFIPVLAGLFIGVGVAPTNEIYTLRELVHSLG 121
Db 61 SCRLAETMKRYGLGQHIAVCSETSLQFFMPVCGALFIGVGVAPTNDIYNERELYNLSF 120

QY 122 ISKPTIVFSSKGLDKVITVQKTVAIKTIVILDSKVYRGYQSMDFIKNTPOGFKGS 181
Db 121 ISOPTIVFCSKRALQKILGVQKLPVIOKIVILDSREDYMGKQSMYFIESHLPAFNEY 180

QY 182 SFKTVENRKEQVALIMNSSGSTGLPKGVOLTHENLVTRFSHARDPIYGNQVSPGTAIT 241
Db 181 DYPDPSDFRETATALLMNSSGSTGLPKGVOLTHMNVCFRSHCRDPVFGNQIIPDTAILT 240

QY 242 VPFPHGFGMTTLGYLTCGFRIVMLTKDEETFLKTLQDYKCSSVILVPTLFAILNRSE 301
Db 241 VIPFHHVFQMTTLGYLTCGFRIVMLYRFEELFLSLQDYKQSALLVPTLSPFAKST 300

QY 302 LLDKYDLNLNVEIASGAPLSKEIGEAVARFNLPGVRQGYGLTETTSAILIITPEGDDKP 361
Db 301 LVDKYDLNLNHEIASGAPLAKEVGEAVAKRFLPGIQRQGYGLTETTSAILIITPEGDDKP 360

QY 362 GASGKVVPLFAKVIDLTKTKTGNRRGVCVKGMKMGVYDNPENATREIIDEGWHL 421
Db 361 GACGKVVPFATAKIVDLTKTGLVNRGELCVKGMKMGVYNNPEATNALIDKDGWLH 420

QY 422 TGDIGYDEEKHFFIVDRKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDPAGE 481
Db 421 SGDIAYYDKDGHFFIVDRKSLIKYGYQVPPAELESILLQHPFIFDAGVAGIPDPAGE 480

QY 482 LPGAVVLLKKGKSMTEKVMYDVASQVSNKRLGGVRFVDEVPKGLTGKIDKKAIREIL 541
Db 481 LPAAVVLLGEGKMTQEVMYDVAGQVTSKRLGGVKFVDEVPKGLTGKIDSKRIREIL 540

RESULT 15
US-09-838-469-30
; Sequence 30, Application US/09838469
; Publication No. US20030068801A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Hall, Mary P.
; APPLICANT: Promega Corporation
; TITLE OF INVENTION: THERMOSTABLE LUCIFERASES AND METHODS OF PRODUCTION
; FILE REFERENCE: 341.006US1
; CURRENT APPLICATION NUMBER: US/09/838,469
; CURRENT FILING DATE: 2001-04-19
; PRIOR APPLICATION NUMBER: US/09/156,946
; PRIOR FILING DATE: 1998-09-18
; NUMBER OF SEQ ID NOS: 41
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 30
; LENGTH: 548
; TYPE: PRT
; ORGANISM: Beetle
; US-09-838-469-30

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; APPLICANT: Hall, Mary P.
; TITLE OF INVENTION: Thermostable luciferases and methods of
; FILE REFERENCE: 341.012US1
; CURRENT APPLICATION NUMBER: US/10/378,168
; CURRENT FILING DATE: 2003-02-28
; PRIOR APPLICATION NUMBER: US/09/396,154
; PRIOR FILING DATE: 1999-09-15
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 09/156,946
; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: PCT/US98/19494
; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 60/059,379
; PRIOR FILING DATE: EARLIER FILING DATE: 1997-09-19
; NUMBER OF SEQ ID NOS: 93
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 30
; LENGTH: 548
; TYPE: PRT
; ORGANISM: Pyrococcus miyako
; US-10-378-168-30

Query Match      67.0%; Score 1890; DB 15; Length 548;
Best Local Similarity 67.8%; Pred. No. 2.4e-174;
Matches 366; Conservative 72; Mismatches 100; Indels 2; Gaps 2;

QY 4 MEND-ENIVGPEPPYPIEGSAGALRKYMDRYAKL-GAIAFTNALTGVDYTYAEYLEK 61
Db 1 MEDDSKHIMGHRHSILWEDGTAGEQLHKAMKRYAVPGTIAFTDAEAENVITYSEYFEM 60

QY 62 SCCLGEALKNYGLVVDGRIALCSENCEEFFIPVLAGLFIGVGVAPTNEIYTLRELVHSLG 121
Db 61 SCRLAETMKRYGLGQHIAVCSETSLQFFMPVCGALFIGVGVAPTNDIYNERELYNLSF 120

QY 122 ISKPTIVFSSKGLDKVITVQKTVAIKTIVILDSKVYRGYQSMDFIKNTPOGFKGS 181
Db 121 ISOPTIVFCSKRALQKILGVQKLPVIOKIVILDSREDYMGKQSMYFIESHLPAFNEY 180

QY 182 SFKTVENRKEQVALIMNSSGSTGLPKGVOLTHENLVTRFSHARDPIYGNQVSPGTAIT 241
Db 181 DYPDPSDFRETATALLMNSSGSTGLPKGVOLTHMNVCFRSHCRDPVFGNQIIPDTAILT 240

QY 242 VPFPHGFGMTTLGYLTCGFRIVMLTKDEETFLKTLQDYKCSSVILVPTLFAILNRSE 301
Db 241 VIPFHHVFQMTTLGYLTCGFRIVMLYRFEELFLSLQDYKQSALLVPTLSPFAKST 300

QY 302 LLDKYDLNLNVEIASGAPLSKEIGEAVARFNLPGVRQGYGLTETTSAILIITPEGDDKP 361
Db 301 LVDKYDLNLNHEIASGAPLAKEVGEAVAKRFLPGIQRQGYGLTETTSAILIITPEGDDKP 360

QY 362 GASGKVVPLFAKVIDLTKTKTGNRRGVCVKGMKMGVYDNPENATREIIDEGWHL 421
Db 361 GACGKVVPFATAKIVDLTKTGLVNRGELCVKGMKMGVYNNPEATNALIDKDGWLH 420

QY 422 TGDIGYDEEKHFFIVDRKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDPAGE 481
Db 421 SGDIAYYDKDGHFFIVDRKSLIKYGYQVPPAELESILLQHPFIFDAGVAGIPDPAGE 480

QY 482 LPGAVVLLKKGKSMTEKVMYDVASQVSNKRLGGVRFVDEVPKGLTGKIDKKAIREIL 541
Db 481 LPAAVVLLGEGKMTQEVMYDVAGQVTSKRLGGVKFVDEVPKGLTGKIDSKRIREIL 540

RESULT 17
US-09-838-469-33
; Sequence 33, Application US/09838469
; Publication No. US20030068801A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Hall, Mary P.
; APPLICANT: Promega Corporation
; TITLE OF INVENTION: THERMOSTABLE LUCIFERASES AND METHODS OF PRODUCTION
; FILE REFERENCE: 341.006US1

```

; CURRENT APPLICATION NUMBER: US/09/838,469
; CURRENT FILING DATE: 2001-04-19
; PRIOR APPLICATION NUMBER: US/09/156,946
; PRIOR FILING DATE: 1998-09-18
; NUMBER OF SEQ ID NOS: 41
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 33
; LENGTH: 552
; TYPE: PRT
; ORGANISM: Beetle
US-09-838-469-33

Query Match 64.9%; Score 1831; DB 10; Length 552;
Best Local Similarity 62.7%; Pred. No. 1.3e-168;
Matches 339; Conservative 91; Mismatches 109; Indels 2; Gaps 2;

QY 4 MENDENIVGPEPPYPIEBGSGAQLRKYMDRYAKL-GAIAFTNALTCVDYTYAEYLEKS 62
DB 1 MSIENNILIGPPYYPLEEGTAGQLHRAISRYAAVEGTLAYTDVHTELEVYKEFLDVT 60

QY 63 CCLGEALKNYGLVVDGRIALCSENCEFFIPVLAGLFIGVGVAFTNEIYTLRELVHSLGI 122
DB 61 CRLAEMKNYGLGLQHTISVCSENCVQFFMPICAALYVGVAFTNDIYNERELYNLSI 120

QY 123 SKPTIVSSKKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQSMDFIKNTPOGFKGSS 182
DB 121 SQPTVFTSRNSLQKILGVQSRPPIIKKIIILDGKDYLGYSQSMQFPMKEHVPAFNVSA 180

QY 183 FKTVEVRKEQVALIMNSSGSTGLPKGVQLTHENLVTRFSHARDPIYGNQVSPGTAILTV 242
DB 181 FKPLSFD-LDRVACIMNSSGSTGLPKGVPIHRTIYRFSHCRDPVFGNQIIPDTILCA 239

QY 243 VPFHFGFMFTTLGYLTCGPRIVMLTFDEBETFLKTLQDYKCSSVILVPLFLAILNSEL 302
DB 240 VPFHAFGTFTNLGYLTCGFHVLMYRNEHLFLQTLQDYKCSALLVPTVLAFLAKNPL 299

QY 303 LDKYDLSNLVEIASGAPLSKEICEAVARNPLPGVROGVLGTETTSAILITPEGGDKPG 362
DB 300 VDKYDLSNLVEIASGAPLSKEISEIAAKRFLPGIRQGYGLTETTCALVITAESEFKLG 359

QY 363 ASGWVPLFKAKVIDLDTKTLGPNRRGEVCKVGPMLKMGYVDNPEATREIIDEEGWLHT 422
DB 360 AVGVVFPYSYLVKLDLNTGKLGNERGEICFKGPMIMKGYINNPEATREIIDEEGWIHS 419

QY 423 GDIGYDEKHFFIVDRKLSLIKYGQVPPAELESVLLQHPNIFDAGVAGVDPPIAGEL 482
DB 420 GDIGYFDEGHVYIVDRKLSLIKYGQVPPAELEALLQHPFIEDAGVAGVDPVAGDL 479

QY 483 PGAVVVLKKGSMTEKEVMDYVASQVSNARLGRGVFVDEVPKGLTGKIDGKAIREILK 542
DB 480 PGAVVVLKKGSMTEKEIYQVAGQVTSKLRGGVEFVKEVPGFTGKIDTRKIKELI 539

QY 543 K 543
DB 540 K 540

RESULT 18

US-10-378-168-33
; Sequence 33, Application US/10378168
; Publication No. US2003023240A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Hall, Mary P.
; TITLE OF INVENTION: Thermostable luciferases and methods of
; FILE REFERENCE: 341.012US1
; CURRENT APPLICATION NUMBER: US/10/378,168
; CURRENT FILING DATE: 2003-02-28
; PRIOR APPLICATION NUMBER: US/09/396,154
; PRIOR FILING DATE: 1999-09-15
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 09/156,946
; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18

; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: PCT/US98/19494
; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 60/059,379
; PRIOR FILING DATE: EARLIER FILING DATE: 1997-09-19
; NUMBER OF SEQ ID NOS: 93
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 33
; LENGTH: 552
; TYPE: PRT
; ORGANISM: Photuris pennsylvanica
US-10-378-168-33

Query Match 64.9%; Score 1831; DB 15; Length 552;
Best Local Similarity 62.7%; Pred. No. 1.3e-168;
Matches 339; Conservative 91; Mismatches 109; Indels 2; Gaps 2;

QY 4 MENDENIVGPEPPYPIEBGSGAQLRKYMDRYAKL-GAIAFTNALTCVDYTYAEYLEKS 62
DB 1 MSIENNILIGPPYYPLEEGTAGQLHRAISRYAAVEGTLAYTDVHTELEVYKEFLDVT 60

QY 63 CCLGEALKNYGLVVDGRIALCSENCEFFIPVLAGLFIGVGVAFTNEIYTLRELVHSLGI 122
DB 61 CRLAEMKNYGLGLQHTISVCSENCVQFFMPICAALYVGVAFTNDIYNERELYNLSI 120

QY 123 SKPTIVSSKKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQSMDFIKNTPOGFKGSS 182
DB 121 SQPTVFTSRNSLQKILGVQSRPPIIKKIIILDGKDYLGYSQSMQFPMKEHVPAFNVSA 180

QY 183 FKTVEVRKEQVALIMNSSGSTGLPKGVQLTHENLVTRFSHARDPIYGNQVSPGTAILTV 242
DB 181 FKPLSFD-LDRVACIMNSSGSTGLPKGVPIHRTIYRFSHCRDPVFGNQIIPDTILCA 239

QY 243 VPFHFGFMFTTLGYLTCGPRIVMLTFDEBETFLKTLQDYKCSSVILVPLFLAILNSEL 302
DB 240 VPFHAFGTFTNLGYLTCGFHVLMYRNEHLFLQTLQDYKCSALLVPTVLAFLAKNPL 299

QY 303 LDKYDLSNLVEIASGAPLSKEICEAVARNPLPGVROGVLGTETTSAILITPEGGDKPG 362
DB 300 VDKYDLSNLVEIASGAPLSKEISEIAAKRFLPGIRQGYGLTETTCALVITAESEFKLG 359

QY 363 ASGWVPLFKAKVIDLDTKTLGPNRRGEVCKVGPMLKMGYVDNPEATREIIDEEGWLHT 422
DB 360 AVGVVFPYSYLVKLDLNTGKLGNERGEICFKGPMIMKGYINNPEATREIIDEEGWIHS 419

QY 423 GDIGYDEKHFFIVDRKLSLIKYGQVPPAELESVLLQHPNIFDAGVAGVDPPIAGEL 482
DB 420 GDIGYFDEGHVYIVDRKLSLIKYGQVPPAELEALLQHPFIEDAGVAGVDPVAGDL 479

QY 483 PGAVVVLKKGSMTEKEVMDYVASQVSNARLGRGVFVDEVPKGLTGKIDGKAIREILK 542
DB 480 PGAVVVLKKGSMTEKEIYQVAGQVTSKLRGGVEFVKEVPGFTGKIDTRKIKELI 539

QY 543 K 543
DB 540 K 540

RESULT 19

US-09-838-469-24
; Sequence 24, Application US/09838469
; Publication No. US2003006880A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Hall, Mary P.
; APPLICANT: Promega Corporation
; TITLE OF INVENTION: Thermostable luciferases and methods of production
; FILE REFERENCE: 341.006US1
; CURRENT APPLICATION NUMBER: US/09/838,469
; CURRENT FILING DATE: 2001-04-19
; PRIOR APPLICATION NUMBER: US/09/156,946
; PRIOR FILING DATE: 1998-09-18
; NUMBER OF SEQ ID NOS: 41
; SOFTWARE: PatentIn Ver. 2.0

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; SEQ ID NO 24
; LENGTH: 544
; TYPE: PRT
; ORGANISM: Beetle
US-09-838-469-24

Query Match
  60.5%; Score 1708.5; DB 10; Length 544;
Best Local Similarity
  60.6%; Pred. No. 1e-156;
Matches 326; Conservative 83; Mismatches 128; Indels 1; Gaps 1;

QY 7 DENIVGPEPPYPIEBGSAQALRKYMDRVAKL-GAIAFTNALTGVDVYAYEYLEKSCL 65
DB 3 DKNILYGPPEPPYPLEDGTAGEQMFDAISRYADIPGCIALTNAHTKENVLYEFLKLSCL 62

QY 66 GEALKNYGLVVDGRIALCSENCEBFFIPVLAGLFIGVGVAPTNEIYTLRELVHSLGISK 125
DB 63 AESFKYKGLKQNDTIAVCSENGLOFFLPVIAASLYGIIIVAPVNDKYIERELIHSIGIVK 122

QY 126 TIVFSSKGLDKVITVQKTVIAKTIIVILDSKVDRYGVQSMDFIKKNTPOGFGSGSFKT 185
DB 123 RIVFCSKNTFOKVLNVKSLKSIETIIILDNEDLGGYQCLNFIQNSDSNLDVKKFKP 182

QY 186 VEVNRKEQVALIMNSSSGTGLPKGVQLTHENLVTRFSHARDPIYGNQVSPGTAILTVVPF 245
DB 183 YSFNRDDQVALIMFSSGTTGLPKGVMLTHKNIIVARFSLAKDPTFGNAINPTTALTIVIPF 242

QY 246 HHGFGMTTLGYTCGFRIVMLTKFDBETFLKLDQYKCSSVLLVPTLFAILNRSLLDK 305
DB 243 HHGFGMTTLGYTCGFRIVMLTHKNIIVARFSLAKDPTFGNAINPTTALTIVIPF 302

QY 306 YDLSNLVEIASGGAPLSKEIGEAVARFNLPGVRQGYGLTETTSALITPEGDDKPGASG 365
DB 303 YDLSHLKXIETASGGAPLSKEIGEMVKRFLNFRVQGYGLTETTSALITPKGDAKPGSG 362

QY 366 KVVPLFKAKVIDLTKTLGNRRGEVCKGPMKGYVDNPEATREIIDEGWLHTGDI 425
DB 363 KIVFPFAVKVVDPTTGKILGNBPGELYFKGPMIMKGYNNEEATKAIIDNDGWLRS 422

QY 426 GYVDEEKHFIVDRLSKLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPPIAGELPGA 485
DB 423 AYYDNDGHFIVDRLSKLIKYGYQVAPAEIEGILLQHPYIVDAGVTGIPDEAAGELPAA 482

QY 486 VVYLKKGKSMTEKVMYDVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIRILKK 543
DB 483 GVVVQTGKYLEQIVQDYVASQVSTAKWLRGGVKFDEIPKSGTGKIDRKVLQWPEK 540

RESULT 20
US-09-813-279B-2
; Sequence 2, Application US/09813279B
; Publication No. US20030104507A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith
; APPLICANT: Hannah, Rita
; APPLICANT: Moravec, Richard A
; TITLE OF INVENTION: IMPROVED METHOD FOR DETECTION OF ATP
; FILE REFERENCE: 10743/6
; CURRENT APPLICATION NUMBER: US/09/813,279B
; PRIOR FILING DATE: 2002-11-13
; PRIOR APPLICATION NUMBER: US60/269,526
; NUMBER OF SEQ ID NOS: 8
; SOFTWARE: Patentin version 3.1
; SEQ ID NO 2
; LENGTH: 544
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Mutant of LucPpe2 luciferase
US-09-813-279B-2

Query Match
  60.5%; Score 1708.5; DB 10; Length 544;
Best Local Similarity
  60.6%; Pred. No. 1e-156;
Matches 326; Conservative 84; Mismatches 127; Indels 1; Gaps 1;

QY 7 DENIVGPEPPYPIEBGSAQALRKYMDRVAKL-GAIAFTNALTGVDVYAYEYLEKSCL 65
DB 3 DKNILYGPPEPPYPLEDGTAGEQMFDAISRYAAIPGCIALTNAHTKENVLYEFLKLSCL 62

QY 66 GEALKNYGLVVDGRIALCSENCEBFFIPVLAGLFIGVGVAPTNEIYTLRELVHSLGISK 125
DB 63 AESFKYKGLKQNDTIAVCSENGLOFFLPVIAASLYGIIIVAPVNDKYIERELIHSIGIVK 122

QY 126 TIVFSSKGLDKVITVQKTVIAKTIIVILDSKVDRYGVQSMDFIKKNTPOGFGSGSFKT 185
DB 123 RIVFCSKNTFOKVLNVKSLKSIETIIILDNEDLGGYQCLNFIQNSDSNLDVKKFKP 182

QY 186 VEVNRKEQVALIMNSSSGTGLPKGVQLTHENLVTRFSHARDPIYGNQVSPGTAILTVVPF 245
DB 183 YSFNRDDQVALIMFSSGTTGLPKGVMLTHKNIIVARFSLAKDPTFGNAINPTTALTIVIPF 242

QY 246 HHGFGMTTLGYTCGFRIVMLTKFDBETFLKLDQYKCSSVLLVPTLFAILNRSLLDK 305
DB 243 HHGFGMTTLGYTCGFRIVMLTHKNIIVARFSLAKDPTFGNAINPTTALTIVIPF 302

QY 306 YDLSNLVEIASGGAPLSKEIGEAVARFNLPGVRQGYGLTETTSALITPEGDDKPGASG 365
DB 303 YDLSHLKXIETASGGAPLSKEIGEMVKRFLNFRVQGYGLTETTSALITPKGDAKPGSG 362

QY 366 KVVPLFKAKVIDLTKTLGNRRGEVCKGPMKGYVDNPEATREIIDEGWLHTGDI 425
DB 363 KIVFPFAVKVVDPTTGKILGNBPGELYFKGPMIMKGYNNEEATKAIIDNDGWLRS 422

QY 426 GYVDEEKHFIVDRLSKLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPPIAGELPGA 485
DB 423 AYYDNDGHFIVDRLSKLIKYGYQVAPAEIEGILLQHPYIVDAGVTGIPDEAAGELPAA 482

QY 486 VVYLKKGKSMTEKVMYDVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIRILKK 543
DB 483 GVVVQTGKYLEQIVQDYVASQVSTAKWLRGGVKFDEIPKSGTGKIDRKVLQWPEK 540

RESULT 21
US-09-813-279B-4
; Sequence 4, Application US/09813279B
; Publication No. US20030104507A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith
; APPLICANT: Hannah, Rita
; APPLICANT: Moravec, Richard A
; TITLE OF INVENTION: IMPROVED METHOD FOR DETECTION OF ATP
; FILE REFERENCE: 10743/6
; CURRENT APPLICATION NUMBER: US/09/813,279B
; PRIOR FILING DATE: 2002-11-13
; PRIOR APPLICATION NUMBER: US60/269,526
; NUMBER OF SEQ ID NOS: 8
; SOFTWARE: Patentin version 3.1
; SEQ ID NO 4
; LENGTH: 544
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Mutant of LucPpe2 luciferase
US-09-813-279B-4

Query Match
  60.5%; Score 1708.5; DB 10; Length 544;
Best Local Similarity
  60.6%; Pred. No. 1e-156;
Matches 326; Conservative 84; Mismatches 127; Indels 1; Gaps 1;

QY 7 DENIVGPEPPYPIEBGSAQALRKYMDRVAKL-GAIAFTNALTGVDVYAYEYLEKSCL 65
DB 3 DKNILYGPPEPPYPLEDGTAGEQMFDAISRYAAIPGCIALTNAHTKENVLYEFLKLSCL 62

QY 66 GEALKNYGLVVDGRIALCSENCEBFFIPVLAGLFIGVGVAPTNEIYTLRELVHSLGISK 125
DB 63 AESFKYKGLKQNDTIAVCSENGLOFFLPVIAASLYGIIIVAPVNDKYIERELIHSIGIVK 122

QY 126 TIVFSSKGLDKVITVQKTVIAKTIIVILDSKVDRYGVQSMDFIKKNTPOGFGSGSFKT 185
DB 123 RIVFCSKNTFOKVLNVKSLKSIETIIILDNEDLGGYQCLNFIQNSDSNLDVKKFKP 182

QY 186 VEVNRKEQVALIMNSSSGTGLPKGVQLTHENLVTRFSHARDPIYGNQVSPGTAILTVVPF 245
DB 183 YSFNRDDQVALIMFSSGTTGLPKGVMLTHKNIIVARFSLAKDPTFGNAINPTTALTIVIPF 242

QY 246 HHGFGMTTLGYTCGFRIVMLTKFDBETFLKLDQYKCSSVLLVPTLFAILNRSLLDK 305
DB 243 HHGFGMTTLGYTCGFRIVMLTHKNIIVARFSLAKDPTFGNAINPTTALTIVIPF 302

QY 306 YDLSNLVEIASGGAPLSKEIGEAVARFNLPGVRQGYGLTETTSALITPEGDDKPGASG 365
DB 303 YDLSHLKXIETASGGAPLSKEIGEMVKRFLNFRVQGYGLTETTSALITPKGDAKPGSG 362

QY 366 KVVPLFKAKVIDLTKTLGNRRGEVCKGPMKGYVDNPEATREIIDEGWLHTGDI 425
DB 363 KIVFPFAVKVVDPTTGKILGNBPGELYFKGPMIMKGYNNEEATKAIIDNDGWLRS 422

QY 426 GYVDEEKHFIVDRLSKLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPPIAGELPGA 485
DB 423 AYYDNDGHFIVDRLSKLIKYGYQVAPAEIEGILLQHPYIVDAGVTGIPDEAAGELPAA 482

QY 486 VVYLKKGKSMTEKVMYDVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIRILKK 543
DB 483 GVVVQTGKYLEQIVQDYVASQVSTAKWLRGGVKFDEIPKSGTGKIDRKVLQWPEK 540
```

Db 63 AESFKYGLKQNDTIAVCSENSLOFPLPVIASLYGLIIVAVNDKYIERELIHSGLIVKP 122
 QY 126 TIVFSSKKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQSMDFIKKNTPOGFKGSSEFKT 185
 Db 123 RIVFCSKNTFOKVLNVKSLKSIETIIILDNEDLGGYQCLNNFISQNSDNLVDVKKFKP 182
 QY 186 VEVNRKEQVALIMNSSGTLPGKVQLTHENLVTRFSHARDPIYGNQVSPGTAILTVVPF 245
 Db 183 YSFNRDDQVALIMESSGTLPGKVMLTHKNIVARFSLAKDPTFGNAINPTTALTVPF 242
 QY 246 HHGFMFTTLGVTGCPRIVMLTKFDEBTLKLDYKCSSVILVPTLFAILNRSELLDK 305
 Db 243 HHGFMFTTLGVTGCPRIVMLTKFDEBTLKLDYKCSSVILVPTLFAILNRSELLDK 302
 QY 306 YDLSNLVEIASGGAPLSKEIGEAVARRFNLPVGRQGYGLTETTSATITPEGDDKPGASG 365
 Db 303 YDLSHLKEIASGGAPLSKEIGEMVKKPKLNFVQGYGLTETTSATITPEGDDKPGASG 362
 QY 366 KVPFLFAKVLDLTKTLGNRRGECVCKGPMKMGYVDNPEATREIIDEGLWHTGDI 425
 Db 363 KIVPLHAKVVDPTTKILGNRRGECVCKGPMKMGYVDNPEATREIIDEGLWHTGDI 422
 QY 426 GYDEEKHEFTVDRKSLIKYKGVQVPAELESVLLQHPNIFDAGVAGVDPPIAGELPGA 485
 Db 423 AYVNDGHHFYVDRKSLIKYKGVQVPAELESVLLQHPNIFDAGVAGVDPPIAGELPGA 482
 QY 486 VVLLKKGKSMTEKEVMDYVASQVSNAXRLRGVRFVDEVPKGLTGKIDGKAIREILKK 543
 Db 483 GVVVQTGKYLNEQIVQDYVASQVSTAKWLRGGVKFLDEIPKSGTGKIDRKLQMLEK 540

RESULT 22

US-10-378-168-24
 ; Sequence 24, Application US/10378168
 ; Publication No. US20030232404A1
 ; GENERAL INFORMATION:
 ; APPLICANT: Wood, Keith V.
 ; APPLICANT: Hall, Mary P.
 ; TITLE OF INVENTION: Thermostable luciferases and methods of
 ; FILE REFERENCE: 341.012US1
 ; CURRENT APPLICATION NUMBER: US/10/378,168
 ; PRIOR FILING DATE: 2003-02-28
 ; PRIOR APPLICATION NUMBER: US/09/396,154
 ; PRIOR FILING DATE: 1999-09-15
 ; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 09/156,946
 ; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
 ; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: PCT/US98/19494
 ; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
 ; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 60/059,379
 ; PRIOR FILING DATE: EARLIER FILING DATE: 1997-09-19
 ; SOFTWARE: FastSeq for Windows Version 3.0
 ; SEQ ID NO 24
 ; LENGTH: 544
 ; TYPE: PRT
 ; ORGANISM: Artificial Sequence
 ; FEATURE:
 ; OTHER INFORMATION: Mutant luciferase

Query Match 60.5%; Score 1708.5; DB 15; Length 544;
 Best Local Similarity 60.6%; Pred. No. 1e-156;
 Matches 326; Conservative 83; Mismatches 128; Indels 1; Gaps 1;

QY 7 DENIVGPEFPYPIEEGSAGALRKYMRYAKL-GAIAFTNALTGVDTYVAEYLEKSCCL 65
 Db 3 DKNILYGPFPYPLEDGTAGEQMFALSRVAAIPGCCIALTNAHTKENVLYEELKLSCL 62
 QY 66 GEALKNYGLVVDGRIALCSENCEEFFIPVLAGLFIGVGVAPTNEIYTLRELVHSLGSKP 125
 Db 63 AESFKYGLKQNDTIAVCSENSLOFPLPVIASLYGLIIVAVNDKYIERELIHSGLIVKP 122
 QY 126 TIVFSSKKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQSMDFIKKNTPOGFKGSSEFKT 185

QY 126 TIVFSSKKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQSMDFIKKNTPOGFKGSSEFKT 185
 Db 123 RIVFCSKNTFOKVLNVKSLKSIETIIILDNEDLGGYQCLNNFISQNSDNLVDVKKFKP 182
 QY 186 VEVNRKEQVALIMNSSGTLPGKVQLTHENLVTRFSHARDPIYGNQVSPGTAILTVVPF 245
 Db 183 YSFNRDDQVALIMESSGTLPGKVMLTHKNIVARFSLAKDPTFGNAINPTTALTVPF 242
 QY 246 HHGFMFTTLGVTGCPRIVMLTKFDEBTLKLDYKCSSVILVPTLFAILNRSELLDK 305
 Db 243 HHGFMFTTLGVTGCPRIVMLTKFDEBTLKLDYKCSSVILVPTLFAILNRSELLDK 302
 QY 306 YDLSNLVEIASGGAPLSKEIGEAVARRFNLPVGRQGYGLTETTSATITPEGDDKPGASG 365
 Db 303 YDLSHLKEIASGGAPLSKEIGEMVKKPKLNFVQGYGLTETTSATITPEGDDKPGASG 362
 QY 366 KVPFLFAKVLDLTKTLGNRRGECVCKGPMKMGYVDNPEATREIIDEGLWHTGDI 425
 Db 363 KIVPLHAKVVDPTTKILGNRRGECVCKGPMKMGYVDNPEATREIIDEGLWHTGDI 422
 QY 426 GYDEEKHEFTVDRKSLIKYKGVQVPAELESVLLQHPNIFDAGVAGVDPPIAGELPGA 485
 Db 423 AYVNDGHHFYVDRKSLIKYKGVQVPAELESVLLQHPNIFDAGVAGVDPPIAGELPGA 482
 QY 486 VVLLKKGKSMTEKEVMDYVASQVSNAXRLRGVRFVDEVPKGLTGKIDGKAIREILKK 543
 Db 483 GVVVQTGKYLNEQIVQDYVASQVSTAKWLRGGVKFLDEIPKSGTGKIDRKLQMLEK 540

RESULT 23

US-10-378-168-45
 ; Sequence 45, Application US/10378168
 ; Publication No. US20030232404A1
 ; GENERAL INFORMATION:
 ; APPLICANT: Wood, Keith V.
 ; APPLICANT: Hall, Mary P.
 ; TITLE OF INVENTION: Thermostable luciferases and methods of
 ; FILE REFERENCE: 341.012US1
 ; CURRENT APPLICATION NUMBER: US/10/378,168
 ; PRIOR FILING DATE: 2003-02-28
 ; PRIOR APPLICATION NUMBER: US/09/396,154
 ; PRIOR FILING DATE: 1999-09-15
 ; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 09/156,946
 ; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
 ; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: PCT/US98/19494
 ; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
 ; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 60/059,379
 ; PRIOR FILING DATE: EARLIER FILING DATE: 1997-09-19
 ; SOFTWARE: FastSeq for Windows Version 3.0
 ; SEQ ID NO 45
 ; LENGTH: 544
 ; TYPE: PRT
 ; ORGANISM: Artificial Sequence
 ; FEATURE:
 ; OTHER INFORMATION: Mutant luciferase

Query Match 60.5%; Score 1708.5; DB 15; Length 544;
 Best Local Similarity 60.6%; Pred. No. 1e-156;
 Matches 326; Conservative 84; Mismatches 127; Indels 1; Gaps 1;

QY 7 DENIVGPEFPYPIEEGSAGALRKYMRYAKL-GAIAFTNALTGVDTYVAEYLEKSCCL 65
 Db 3 DKNILYGPFPYPLEDGTAGEQMFALSRVAAIPGCCIALTNAHTKENVLYEELKLSCL 62
 QY 66 GEALKNYGLVVDGRIALCSENCEEFFIPVLAGLFIGVGVAPTNEIYTLRELVHSLGSKP 125
 Db 63 AESFKYGLKQNDTIAVCSENSLOFPLPVIASLYGLIIVAVNDKYIERELIHSGLIVKP 122
 QY 126 TIVFSSKKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQSMDFIKKNTPOGFKGSSEFKT 185

Qy 486 VVLLKKGKSMTEKEVMDYVASQVSNKRLRGGVRFVDEVPKGLTGKIDGKAIREILKK 543
Db 483 GVVVQTGKYLNEQIVQDYVASQVSTAKWLRGGVVKFLDEIPKGSTGKIDRKVLRQMLEK 540

Search completed: July 22, 2004, 08:33:26
Job time : 44 secs

OM protein - protein search, using sw model

Run on: July 22, 2004, 08:02:44 ; Search time 15.6667 Seconds
(without alignments)
1805.811 Million cell updates/sec

Title: US-09-581-241A-4
Perfect score: 2823
Sequence: 1 MENMENDEINVGPFFPYI.....TGKIDKAIREILKKPVARM 548

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 389414 seqs, 51625971 residues

Total number of hits satisfying chosen parameters: 389414

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 100 summaries

Database : Issued Patents AA: *
1: /cgn2_6/prodata/2/iaa/5A COMB.pap.*
2: /cgn2_6/prodata/2/iaa/5B COMB.pap.*
3: /cgn2_6/prodata/2/iaa/6A COMB.pap.*
4: /cgn2_6/prodata/2/iaa/6B COMB.pap.*
5: /cgn2_6/prodata/2/iaa/PCTUS COMB.pap.*
6: /cgn2_6/prodata/2/iaa/backfiles.pap.*

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Query Match	Score	Length	ID	Description
1	2819	99.9	548	2	US-08-460-934-2
2	2819	99.9	548	2	US-08-782-118-2
3	2817	99.8	548	3	US-09-111-752-14
4	2814	99.7	548	1	US-07-903-047-8
5	2814	99.7	548	3	US-09-380-061B-16
6	2814	99.7	636	2	US-08-460-934-9
7	2814	99.7	636	2	US-08-782-118-9
8	2806	99.4	548	4	US-08-487-183A-14
9	2805	99.4	548	4	US-09-396-154-28
10	2801	99.2	568	2	US-08-460-934-6
11	2801	99.2	568	2	US-08-782-118-6
12	2793	98.9	548	4	US-09-602-628-10
13	2703	95.7	552	3	US-09-111-752-10
14	2684	95.1	548	1	US-07-675-211-2
15	2684	95.1	548	1	US-07-903-047-2
16	2684	95.1	548	1	US-08-076-042-2
17	2684	95.1	548	3	US-09-380-061B-14
18	2684	95.1	548	4	US-09-396-154-27
19	2675	94.8	548	4	US-08-487-183A-12
20	2588	91.7	552	3	US-09-111-752-7
21	2394	84.8	552	3	US-09-111-752-5
22	2335.5	82.7	548	3	US-09-380-061B-18
23	2335.5	82.7	548	4	US-08-487-183A-16
24	2335.5	82.7	548	4	US-09-396-154-29
25	1965.5	69.6	547	3	US-09-380-061B-20
26	1965.5	69.6	547	4	US-09-396-154-32
27	1956.5	69.3	550	1	US-08-354-240A-4

28	1956.5	69.3	550	4	US-09-602-628-8	Sequence 8, Appli
29	1956.5	69.3	550	4	US-09-577-424-2	Sequence 2, Appli
30	1950.5	69.1	550	4	US-09-602-628-4	Sequence 4, Appli
31	1947.5	69.0	550	1	US-08-354-240A-6	Sequence 6, Appli
32	1945.5	68.9	549	1	US-08-354-240A-2	Sequence 2, Appli
33	1945.5	68.9	550	3	US-08-867-352-23	Sequence 23, Appli
34	1945.5	68.9	550	3	US-09-380-061B-21	Sequence 21, Appli
35	1945.5	68.9	550	4	US-09-602-628-2	Sequence 2, Appli
36	1945.5	68.9	550	4	US-09-602-628-12	Sequence 12, Appli
37	1945.5	68.9	550	4	US-09-396-154-31	Sequence 31, Appli
38	1945.5	68.9	815	1	US-08-122-520C-9	Sequence 9, Appli
39	1945.5	68.9	1242	4	US-09-488-270A-2	Sequence 2, Appli
40	1944.5	68.9	550	3	US-08-718-425-5	Sequence 5, Appli
41	1942.5	68.8	550	3	US-08-875-277A-4	Sequence 4, Appli
42	1939.5	68.7	550	3	US-08-718-425-2	Sequence 2, Appli
43	1939.5	68.7	550	3	US-08-875-277A-2	Sequence 2, Appli
44	1937.5	68.6	550	3	US-09-380-061B-6	Sequence 6, Appli
45	1934.5	68.5	550	4	US-09-602-628-6	Sequence 6, Appli
46	1930.5	68.4	550	4	US-08-487-183A-10	Sequence 10, Appli
47	1905.5	67.5	561	2	US-08-474-169-8	Sequence 8, Appli
48	1890	67.0	548	4	US-09-396-154-30	Sequence 30, Appli
49	1831	64.9	552	1	US-08-231-729B-6	Sequence 6, Appli
50	1831	64.9	552	4	US-09-396-154-33	Sequence 33, Appli
51	1708.5	60.5	544	4	US-09-396-154-24	Sequence 24, Appli
52	1708.5	60.5	544	4	US-09-396-154-45	Sequence 45, Appli
53	1704.5	60.4	544	4	US-09-396-154-44	Sequence 44, Appli
54	1673.5	59.3	544	4	US-09-396-154-23	Sequence 23, Appli
55	1669.5	59.1	544	4	US-09-396-154-19	Sequence 19, Appli
56	1648.5	58.4	544	4	US-09-396-154-22	Sequence 22, Appli
57	1645.5	58.3	544	4	US-09-396-154-18	Sequence 18, Appli
58	1643.5	58.2	544	4	US-09-396-154-20	Sequence 20, Appli
59	1640.5	58.1	544	4	US-09-396-154-15	Sequence 15, Appli
60	1640.5	58.1	544	4	US-09-396-154-21	Sequence 21, Appli
61	1637.5	58.0	544	4	US-09-396-154-17	Sequence 17, Appli
62	1636.5	58.0	544	4	US-09-396-154-14	Sequence 14, Appli
63	1636.5	58.0	545	4	US-09-396-154-25	Sequence 25, Appli
64	1636.5	57.8	544	4	US-09-396-154-16	Sequence 16, Appli
65	1628.5	57.7	545	4	US-09-396-154-37	Sequence 37, Appli
66	1383	49.0	546	4	US-09-396-154-34	Sequence 34, Appli
67	1365	48.4	542	4	US-09-396-154-47	Sequence 47, Appli
68	1365	48.4	543	4	US-08-487-183A-4	Sequence 4, Appli
69	1365	48.4	543	4	US-08-487-183A-6	Sequence 6, Appli
70	1365	48.4	543	4	US-09-396-154-36	Sequence 36, Appli
71	1361	48.2	543	4	US-08-487-183A-8	Sequence 8, Appli
72	1354	48.0	542	4	US-09-396-154-26	Sequence 26, Appli
73	1354	48.0	543	4	US-08-487-183A-2	Sequence 2, Appli
74	1354	48.0	543	4	US-09-396-154-35	Sequence 35, Appli
75	734.5	26.0	535	4	US-08-969-046-2	Sequence 2, Appli
76	724.5	25.7	540	3	US-08-991-677-8	Sequence 8, Appli
77	722.5	25.6	544	4	US-09-615-192A-349	Sequence 349, App
78	715	25.3	570	4	US-08-969-046-4	Sequence 4, Appli
79	687	24.3	551	3	US-09-615-192A-348	Sequence 348, App
80	585	20.7	578	3	US-08-981-215-1	Sequence 1, Appli
81	551	19.5	566	4	US-09-253-991A-17972	Sequence 17972, A
82	546	19.3	584	4	US-09-489-039A-14137	Sequence 14137, A
83	539	19.1	568	4	US-09-328-352-5460	Sequence 5460, Ap
84	505	17.9	562	4	US-09-253-991A-17971	Sequence 17971, A
85	492.5	17.4	589	4	US-09-328-352-6901	Sequence 6901, Ap
86	476	16.9	180	4	US-09-615-192A-281	Sequence 281, App
87	473	16.8	582	4	US-09-543-681A-4556	Sequence 4556, Ap
88	429	15.2	601	4	US-09-253-991A-31225	Sequence 31225, A
89	426	15.1	543	4	US-09-134-001C-4423	Sequence 4423, Ap
90	418	14.8	548	4	US-09-543-681A-6631	Sequence 6631, Ap
91	405	14.3	661	4	US-09-253-991A-20392	Sequence 20392, A
92	389	13.8	542	4	US-09-489-039A-9564	Sequence 9564, Ap
93	373	13.2	523	4	US-09-134-000C-6177	Sequence 6177, Ap
94	354.5	12.6	583	4	US-09-253-991A-20324	Sequence 20324, A
95	339	12.0	649	4	US-09-418-963-2	Sequence 2, Appli
96	333	11.8	548	4	US-09-328-352-7909	Sequence 7909, Ap
97	325	11.5	119	4	US-09-615-192A-282	Sequence 282, App
98	324.5	11.5	488	4	US-08-311-731A-283	Sequence 283, App
99	317.5	11.2	555	4	US-09-253-991A-20604	Sequence 20604, A
100	312	11.1	582	4	US-09-489-039A-7976	Sequence 7976, Ap

ALIGNMENTS

RESULT 1
US-08-460-934-2
; Sequence 2, Application US/08460934
; Patent No. 5814465
; GENERAL INFORMATION:
; APPLICANT: TATSUMI, HIROKI
; APPLICANT: FUKUDA, SATOSHI
; APPLICANT: KIKUCHI, MAMORU
; APPLICANT: KOYAMA, YASUJI
; TITLE OF INVENTION: BIOTINYLATED FIREFLY LUCIFERASE, A GENE
; TITLE OF INVENTION: FOR BIOTINYLATED FIREFLY LUCIFERASE, A RECOMBINANT DNA, A
; TITLE OF INVENTION: PROCESS FOR PRODUCING BIOTINATED AND A BIOLUMINESCENT
; TITLE OF INVENTION: ANALYSIS METHOD
; NUMBER OF SEQUENCES: 14
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT,
; ADDRESSEE: P.C.
; STREET: 1755 S. JEFFERSON DAVIS HIGHWAY, FOURTH FLOOR
; CITY: ARLINGTON
; STATE: VA
; COUNTRY: USA
; ZIP: 22202
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; OPERATING SYSTEM: IBM PC compatible
; SOFTWARE: Patent In Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/460,934
; FILING DATE: 05-JUN-1995
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: JP 193798/1994
; FILING DATE: 27-JUL-1994
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: JP 54625/1995
; FILING DATE: 14-MAR-1995
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: JP 98857/1995
; FILING DATE: 24-APR-1995
; ATTORNEY/AGENT INFORMATION:
; NAME: OBLON, NORMAN F.
; REGISTRATION NUMBER: 24,618
; REFERENCE/DOCKET NUMBER: 7126-001-0
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 703-413-3000
; TELEFAX: 703-413-2220
; INFORMATION FOR SEQ ID NO: 2:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 548 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: unknown
; MOLECULE TYPE: peptide
; ORIGINAL SOURCE:
; ORGANISM: Luciola lateralis
US-08-460-934-2
Query Match 99.98; Score 2819; DB 2; Length 548;
Best Local Similarity 99.88; Pred. No. 1.1e-285;
Matches 547; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
Qy 1 MENMENDENIVGPEPPYPIEESGAGQLRKYMDRYAKLGAIAFTNALTGVDTYAEYLE 60
Db 1 MENMENDENIVGPEPPYPIEESGAGQLRKYMDRYAKLGAIAFTNALTGVDTYAEYLE 60
Qy 61 KSCCLGEALKNYGLVVDGRIALCSNCEBFFIPVLAGLFIGVGVPATNEIYTLRELVHSL 120

Db 61 KSCCLGEALKNYGLVVDGRIALCSNCEBFFIPVLAGLFIGVGVPATNEIYTLRELVHSL 120
Qy 121 GISKPTIVFSSKKGLDKVITVQKVTATKTVILDSKVDYRGYQSMDFIKKNTPOGPKG 180
Db 121 GISKPTIVFSSKKGLDKVITVQKVTATKTVILDSKVDYRGYQSMDFIKKNTPOGPKG 180
Qy 181 SSFKTVEVNRKEQVALINWSSGSLPGKVGOLTHENLVTRFSHARDPIYGNQVSPGTAIL 240
Db 181 SSFKTVEVNRKEQVALINWSSGSLPGKVGOLTHENLVTRFSHARDPIYGNQVSPGTAIL 240
Qy 241 TVPFFHGGFMFTTLGYLTGCFRIVMLTKFDEETFLKTLQDYKCSSVILVPTLFAILNRS 300
Db 241 TVPFFHGGFMFTTLGYLTGCFRIVMLTKFDEETFLKTLQDYKCSSVILVPTLFAILNRS 300
Qy 301 ELLDKYDLSNLVEITASGAPLSKEIGEAVARFNLPGVRCGYGLTETTSATIIITPEGDDK 360
Db 301 ELLDKYDLSNLVEITASGAPLSKEIGEAVARFNLPGVRCGYGLTETTSATIIITPEGDDK 360
Qy 361 PGASGVVPLFKAKVIDLDTKTLGPNRRGEVCVKGPMLMKGYVDNPEATREIIDEEGWL 420
Db 361 PGASGVVPLFKAKVIDLDTKTLGPNRRGEVCVKGPMLMKGYVDNPEATREIIDEEGWL 420
Qy 421 HTGDIYDYDEEKHPFIVDRLSLKIYKGYQVPPAELESVLLQHPNIFDAGVAGVDPDIAG 480
Db 421 HTGDIYDYDEEKHPFIVDRLSLKIYKGYQVPPAELESVLLQHPNIFDAGVAGVDPDIAG 480
Qy 481 ELPGAVVVLKKGKSMTEKEVMDYVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
Db 481 ELPGAVVVLKKGKSMTEKEVMDYVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
Qy 541 LKKPVAKM 548
Db 541 LKKPVAKM 548

RESULT 2

US-08-782-118-2
; Sequence 2, Application US/08782118
; Patent No. 5843746
; GENERAL INFORMATION:
; APPLICANT: TATSUMI, HIROKI
; APPLICANT: FUKUDA, SATOSHI
; APPLICANT: KIKUCHI, MAMORU
; APPLICANT: KOYAMA, YASUJI
; TITLE OF INVENTION: BIOTINYLATED FIREFLY LUCIFERASE, A GENE
; TITLE OF INVENTION: FOR BIOTINYLATED FIREFLY LUCIFERASE, A RECOMBINANT DNA, A
; TITLE OF INVENTION: PROCESS FOR PRODUCING BIOTINATED AND A BIOLUMINESCENT
; TITLE OF INVENTION: ANALYSIS METHOD
; NUMBER OF SEQUENCES: 14
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT,
; ADDRESSEE: P.C.
; STREET: 1755 S. JEFFERSON DAVIS HIGHWAY, FOURTH FLOOR
; CITY: ARLINGTON
; STATE: VA
; COUNTRY: USA
; ZIP: 22202
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; OPERATING SYSTEM: IBM PC compatible
; SOFTWARE: Patent In Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/782,118
; FILING DATE: 13-JAN-1997
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/460,934
; FILING DATE: 05-JUN-1995
; APPLICATION NUMBER: JP 193798/1994
; FILING DATE: 27-JUL-1994
; PRIOR APPLICATION DATA:

/ FILING DATE: 14-MAR-1995
/ PRIOR APPLICATION DATA:
/ APPLICATION NUMBER: JP 98857/1995
/ FILING DATE: 24-APR-1995
/ ATTORNEY/AGENT INFORMATION:
/ NAME: OBLON, NORMAN F.
/ REGISTRATION NUMBER: 24,618
/ REFERENCE/DOCKET NUMBER: 7126-001-0
/ TELECOMMUNICATION INFORMATION:
/ TELEPHONE: 703-413-3000
/ TELEFAX: 703-413-2220
/ INFORMATION FOR SEQ ID NO: 2:
/ SEQUENCE CHARACTERISTICS:
/ LENGTH: 548 amino acids
/ TYPE: amino acid
/ STRANDEDNESS: single
/ TOPOLOGY: unknown
/ MOLECULE TYPE: peptide
/ ORIGINAL SOURCE:
/ ORGANISM: Luciola lateralis
/ US-08-782-118-2

Query Match 99.8%; Score 2819; DB 2; Length 548;
Best Local Similarity 99.8%; Pred. No. 1.1e-285;
Matches 547; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 MENMENDENIVGPEPFYPIEESAGALRYKMDRYAKLGAIAFTNALTGVDTYVAEYLE 60
DB 1 MENMENDENIVGPEPFYPIEESAGALRYKMDRYAKLGAIAFTNALTGVDTYVAEYLE 60
QY 61 KSCCLGEALKNYGLVVDGRIALCSENCEFFIPVLGLFVGVVAPTNIEIYTLRELHSL 120
DB 61 KSCCLGEALKNYGLVVDGRIALCSENCEFFIPVLGLFVGVVAPTNIEIYTLRELHSL 120
QY 121 GISKPTIVFSSKGLDKVITVQKTVAITKIVILDSKVDYRGYQSMDFIKKNTPOGFKG 180
DB 121 GISKPTIVFSSKGLDKVITVQKTVAITKIVILDSKVDYRGYQSMDFIKKNTPOGFKG 180
QY 181 SSFKTVEVNRKEQVALIMNMSGSTGLPKGVOLTHENLVTRFSHARDPIYGNQVSPGTAIL 240
DB 181 SSFKTVEVNRKEQVALIMNMSGSTGLPKGVOLTHENLVTRFSHARDPIYGNQVSPGTAIL 240
QY 241 TVVPFHGFGMFTTLGYLTCGFRIVMLTKFDEETFLKTLQDYKCSSVILVPTLFAILNRS 300
DB 241 TVVPFHGFGMFTTLGYLTCGFRIVMLTKFDEETFLKTLQDYKCSSVILVPTLFAILNRS 300
QY 301 ELDDKYDLSNLVIEASGAPLSKEIGEAVARRFNLPQVRQGYGLTETTSAILIITPEGDDK 360
DB 301 ELDDKYDLSNLVIEASGAPLSKEIGEAVARRFNLPQVRQGYGLTETTSAILIITPEGDDK 360
QY 421 HTGDIYGYDEEKHFFIVDRLSLIKIKYGVQVPPAELESVLLQHPNIFDAGVAGVPDPIAG 480
DB 421 HTGDIYGYDEEKHFFIVDRLSLIKIKYGVQVPPAELESVLLQHPNIFDAGVAGVPDPIAG 480

RESULT 3

US-09-111-752-14
/ Sequence 14, Application US/09111752
/ Patent No. 6074859
/ GENERAL INFORMATION:
/ APPLICANT: HIROKAWA, KOZO

/ APPLICANT: KAJIYAMA, NAOKI
/ APPLICANT: MURAKAMI, SEIJI
/ TITLE OF INVENTION: MUTANT-TYPE BIOLUMINESCENT PROTEIN, AND
/ TITLE OF INVENTION: PROCESS FOR PRODUCING MUTANT-TYPE LUMINESCENT PROTEIN
/ NUMBER OF SEQUENCES: 14
/ CORRESPONDENCE ADDRESS:
/ ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT,
/ ADDRESSEE: P.C.
/ STREET: 1755 S. JEFFERSON DAVIS HIGHWAY, SUITE 400
/ CITY: ARLINGTON
/ STATE: VA
/ COUNTRY: USA
/ ZIP: 22202
/ COMPUTER READABLE FORM:
/ MEDIUM TYPE: Floppy disk
/ COMPUTER: IBM PC compatible
/ OPERATING SYSTEM: PC-DOS/MS-DOS
/ SOFTWARE: PatentIn Release #1.0, Version #1.30
/ CURRENT APPLICATION DATA: US/09/111,752
/ FILING DATE: 08-JUL-1998
/ CLASSIFICATION: 435
/ ATTORNEY/AGENT INFORMATION:
/ NAME: OBLON, NORMAN F.
/ REGISTRATION NUMBER: 24,618
/ REFERENCE/DOCKET NUMBER: 7126-0009-0
/ TELECOMMUNICATION INFORMATION:
/ TELEPHONE: 703-413-3000
/ TELEFAX: 703-413-2220
/ INFORMATION FOR SEQ ID NO: 14:
/ SEQUENCE CHARACTERISTICS:
/ LENGTH: 548 amino acids
/ TYPE: amino acid
/ STRANDEDNESS: single
/ TOPOLOGY: linear
/ MOLECULE TYPE: peptide
/ US-09-111-752-14

Query Match 99.8%; Score 2817; DB 3; Length 548;
Best Local Similarity 99.8%; Pred. No. 1.7e-285;
Matches 547; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 MENMENDENIVGPEPFYPIEESAGALRYKMDRYAKLGAIAFTNALTGVDTYVAEYLE 60
DB 1 MENMENDENIVGPEPFYPIEESAGALRYKMDRYAKLGAIAFTNALTGVDTYVAEYLE 60
QY 61 KSCCLGEALKNYGLVVDGRIALCSENCEFFIPVLGLFVGVVAPTNIEIYTLRELHSL 120
DB 61 KSCCLGEALKNYGLVVDGRIALCSENCEFFIPVLGLFVGVVAPTNIEIYTLRELHSL 120
QY 121 GISKPTIVFSSKGLDKVITVQKTVAITKIVILDSKVDYRGYQSMDFIKKNTPOGFKG 180
DB 121 GISKPTIVFSSKGLDKVITVQKTVAITKIVILDSKVDYRGYQSMDFIKKNTPOGFKG 180
QY 181 SSFKTVEVNRKEQVALIMNMSGSTGLPKGVOLTHENLVTRFSHARDPIYGNQVSPGTAIL 240
DB 181 SSFKTVEVNRKEQVALIMNMSGSTGLPKGVOLTHENLVTRFSHARDPIYGNQVSPGTAIL 240
QY 241 TVVPFHGFGMFTTLGYLTCGFRIVMLTKFDEETFLKTLQDYKCSSVILVPTLFAILNRS 300
DB 241 TVVPFHGFGMFTTLGYLTCGFRIVMLTKFDEETFLKTLQDYKCSSVILVPTLFAILNRS 300
QY 301 ELDDKYDLSNLVIEASGAPLSKEIGEAVARRFNLPQVRQGYGLTETTSAILIITPEGDDK 360
DB 301 ELDDKYDLSNLVIEASGAPLSKEIGEAVARRFNLPQVRQGYGLTETTSAILIITPEGDDK 360
QY 361 PGASGVVPLFKAKVIDLDTKTLGPNRRGEVCKGPMKMGYVDNPEATREIIDEGWL 420
DB 361 PGASGVVPLFKAKVIDLDTKTLGPNRRGEVCKGPMKMGYVDNPEATREIIDEGWL 420
QY 421 HTGDIYGYDEEKHFFIVDRLSLIKIKYGVQVPPAELESVLLQHPNIFDAGVAGVPDPIAG 480
DB 421 HTGDIYGYDEEKHFFIVDRLSLIKIKYGVQVPPAELESVLLQHPNIFDAGVAGVPDPIAG 480

QY 481 ELPGAVVVLKKGKSMTEKVDYVAVSOVSNKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
DB 481 ELPGAVVVLKKGKSMTEKVDYVAVSOVSNKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
QY 541 LKPPVAKM 548
DB 541 LKPPVAKM 548

RESULT 4
US-07-903-047-8
; Sequence 8, Application US/07903047
; Patent No. 5229285
; GENERAL INFORMATION:
; APPLICANT: Kajiya, Naoki
; APPLICANT: Nakano, Eiichi
; TITLE OF INVENTION: Thermostable Luciferase Of Firefly,
; TITLE OF INVENTION: Thermostable Luciferase Gene Of Firefly, No. 5229285el Recombi
; TITLE OF INVENTION: DNA, And Process For The Preparation Of Thermostable
; TITLE OF INVENTION: Luciferase Of Firefly
; NUMBER OF SEQUENCES: 11
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Pennie & Edmonds
; STREET: 1155 Avenue of the Americas
; CITY: New York
; STATE: New York
; COUNTRY: U.S.A.
; ZIP: 10036-2711
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/903,047
; FILING DATE: 19920623
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: Mirock, S. Leslie
; REGISTRATION NUMBER: 18,872
; REFERENCE/DOCKET NUMBER: 7005-048
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 212 790-9090
; TELEFAX: 212 869-8864/9741
; TELEX: 66141 PENNIE
; INFORMATION FOR SEQ ID NO: 8:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 548 amino acids
; TYPE: AMINO ACID
; STRANDEDNESS: single
; TOPOLOGY: unknown
; MOLECULE TYPE: peptide
; US-07-903-047-8.

Query Match 99.7%; Score 2814; DB 1; Length 548;
Best Local Similarity 99.6%; Pred. No. 3.5e-285;
Matches 546; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 MENMENDENIVGPEPPYPIEBSAGQRLKRYMDRYAKLGAIAFTNALTGVDYTYAEYLE 60
DB 1 MENMENDENIVGPEPPYPIEBSAGQRLKRYMDRYAKLGAIAFTNALTGVDYTYAEYLE 60
QY 61 KSCCLGEALXNYGLVVDGRIALSCNCEEEFFIPVLGLFVGVAFTNEIYTLRELHVSL 120
DB 61 KSCCLGEALXNYGLVVDGRIALSCNCEEEFFIPVLGLFVGVAFTNEIYTLRELHVSL 120
QY 121 GISKPTIVFSKGLDVIIVQKTVTAIKTIVILDSKVDYRGYQSDMNFKKQTPQGFKG 180
DB 121 GISKPTIVFSKGLDVIIVQKTVTAIKTIVILDSKVDYRGYQSDMNFKKQTPQGFKG 180
QY 181 SSFKTVEVNRKEQVALIMNSGSGTGLPKGVOLTHENAVTRFSHARDPIYGNQVSPGTAIL 240

DB 181 SSFKTVEVNRKEQVALIMNSGSGTGLPKGVOLTHENAVTRFSHARDPIYGNQVSPGTAIL 240
QY 241 TVVPHHGFNGFTTGLGYLTGCFRIWMLTKPDEETFLKTLQDYKCSSVILVPTLFAILNRS 300
DB 241 TVVPHHGFNGFTTGLGYLTGCFRIWMLTKPDEETFLKTLQDYKCSSVILVPTLFAILNRS 300
QY 301 ELLDKYDLSNLVEIASGAPLSKEIGBAVARFNLPGVRQGYGLTETTSALIIITPEGDDK 360
DB 301 ELLDKYDLSNLVEIASGAPLSKEIGBAVARFNLPGVRQGYGLTETTSALIIITPEGDDK 360
QY 361 PGASGVVPLPKAKVIDLDTKKTGPNRRGEVCYKGMKMGVYVDNPEATREIIDESEGL 420
DB 361 PGASGVVPLPKAKVIDLDTKKTGPNRRGEVCYKGMKMGVYVDNPEATREIIDESEGL 420
QY 421 HTGDIGYDDESKHFFIVDRLSKLIKYGQVPPAELESVLLQHPNIFDAGVAGVPDPIAG 480
DB 421 HTGDIGYDDESKHFFIVDRLSKLIKYGQVPPAELESVLLQHPNIFDAGVAGVPDPIAG 480
QY 481 ELPGAVVVLKKGKSMTEKVDYVAVSOVSNKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
DB 481 ELPGAVVVLKKGKSMTEKVDYVAVSOVSNKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
QY 541 LKPPVAKM 548
DB 541 LKPPVAKM 548

RESULT 5
US-09-380-061B-16
; Sequence 16, Application US/09380061B
; Patent No. 6265177
; GENERAL INFORMATION:
; APPLICANT: SQUIRRELL, DAVID JAMES
; APPLICANT: WHITE, PETER JOHN
; APPLICANT: LOWE, CHRISTOPHER ROBIN
; APPLICANT: MURRAY, JAMES AUGUSTUS HENRY
; TITLE OF INVENTION: ENZYME ASSAY FOR MUTANT FIREFLY LUCIFERASE
; NUMBER OF SEQUENCES: 21
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: NIXON & VANDERHVE P.C.
; STREET: 1100 NORTH GLEBE ROAD
; CITY: ARLINGTON
; STATE: VIRGINIA
; COUNTRY: U.S.A.
; ZIP: 22201-4714
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.25 (EPO)
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/380,061B
; FILING DATE: 25-Aug-1999
; CLASSIFICATION: <Unknown>
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: PCT/GB98/01026
; FILING DATE: 7-APR-1998
; APPLICATION NUMBER: GB 9707468.8
; FILING DATE: 11-APR-1997
; ATTORNEY/AGENT INFORMATION:
; NAME: SADOFF, B. J.
; REGISTRATION NUMBER: 36,663
; REFERENCE/DOCKET NUMBER: 124-725
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (703)816-4000
; TELEFAX: (703)816-4100
; INFORMATION FOR SEQ ID NO: 16:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 548 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; SEQUENCE DESCRIPTION: SEQ ID NO: 16:

US-09-380-061B-16

Query Match 99.7%; Score 2814; DB 3; Length 548;
Best Local Similarity 99.8%; Pred. No. 3.5e-285;
Matches 546; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 MENMENDENIVGPEPFPIEGSAGALRYKMDRYAKLGAIAFTNALTGVDTYVAEYLE 60
DB 1 MENMENDENIVGPEPFPIEGSAGALRYKMDRYAKLGAIAFTNALTGVDTYVAEYLE 60

QY 61 KSCCLGEALKNYGLVVDGRIALCSECEEFPIVLAGLFIGVGVAPTNEIYTLRELHSL 120
DB 61 KSCCLGEALKNYGLVVDGRIALCSECEEFPIVLAGLFIGVGVAPTNEIYTLRELHSL 120

QY 121 GISKPTIVFSSKGLDKVITVQKTVAITKIVILDSKVDYRGYQSMDFIKKNTPOGFKG 180
DB 121 GISKPTIVFSSKGLDKVITVQKTVAITKIVILDSKVDYRGYQSMDFIKKNTPOGFKG 180

QY 181 SSFKTVEVNRKEQVALIMNSSSGTGLPKGVQLTHENLVTRFSHARDPIYGNQVSPGTAIL 240
DB 181 SSFKTVEVNRKEQVALIMNSSSGTGLPKGVQLTHENLVTRFSHARDPIYGNQVSPGTAIL 240

QY 241 TVVPFHGGFMFTTGLYTCGFRIVMLTKFDETFELKTLQDYKCSVILVPTLFAILNRS 300
DB 241 TVVPFHGGFMFTTGLYTCGFRIVMLTKFDETFELKTLQDYKCSVILVPTLFAILNRS 300

QY 301 ELLDKYDLNLVEIASGGAPLSKEIGEAVARRFNLPGVRRGYGLTETTSALIIITPEGDDK 360
DB 301 ELLDKYDLNLVEIASGGAPLSKEIGEAVARRFNLPGVRRGYGLTETTSALIIITPEGDDK 360

QY 361 PGASGKVVPLFKAKVIDLTKTLGNRRGEVCVKGPMKMGYVDNPEATRIIDEGWL 420
DB 361 PGASGKVVPLFKAKVIDLTKTLGNRRGEVCVKGPMKMGYVDNPEATRIIDEGWL 420

QY 421 HTGDIGYDEEKHFIVDRILKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDIAG 480
DB 421 HTGDIGYDEEKHFIVDRILKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDIAG 480

QY 481 ELPGAUVVLEKGSMTKEVMYVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
DB 481 ELPGAUVVLEKGSMTKEVMYVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540

RESULT 6

US-08-460-934-9
Sequence 9, Application US/08460934
Patent No. 5814465
GENERAL INFORMATION:
APPLICANT: TATSUMI, HIROKI
APPLICANT: FUKUDA, SATOSHI
APPLICANT: KIKUCHI, MAMORU
APPLICANT: KOYAMA, YASUJI
TITLE OF INVENTION: BIOTINYLATED FIREFLY LUCIFERASE, A GENE
TITLE OF INVENTION: FOR BIOTINYLATED FIREFLY LUCIFERASE, A RECOMBINANT DNA, A
TITLE OF INVENTION: PROCESS FOR PRODUCING BIOTINATED AND A BIOLUMINESCENT
TITLE OF INVENTION: ANALYSIS METHOD
NUMBER OF SEQUENCES: 14
CORRESPONDENCE ADDRESS:
ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MATIER & NEUSTADT,
STREET: 1755 S. JEFFERSON DAVIS HIGHWAY, FOURTH FLOOR
CITY: ARLINGTON
STATE: VA
COUNTRY: USA
ZIP: 22202
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Patentin Release #1.0, Version #1.30

CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/460,934
FILING DATE: 05-JUN-1995
CLASSIFICATION: 435
PRIOR APPLICATION NUMBER: JP 193798/1994
FILING DATE: 27-JUL-1994
PRIOR APPLICATION DATA:
APPLICATION NUMBER: JP 54625/1995
FILING DATE: 14-MAR-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: JP 98857/1995
FILING DATE: 24-APR-1995
ATTORNEY/AGENT INFORMATION:
NAME: OBLON, NORMAN F.
REGISTRATION NUMBER: 24,618
REFERENCE/DOCKET NUMBER: 7126-001-0
TELECOMMUNICATION INFORMATION:
TELEPHONE: 703-413-3000
TELEFAX: 703-413-2220
INFORMATION FOR SEQ ID NO: 9:
SEQUENCE CHARACTERISTICS:
LENGTH: 636 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
US-08-460-934-9

Query Match 99.7%; Score 2814; DB 2; Length 636;

Best Local Similarity 99.8%; Pred. No. 4.6e-285;
Matches 546; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 MENMENDENIVGPEPFPIEGSAGALRYKMDRYAKLGAIAFTNALTGVDTYVAEYLE 60
DB 1 MENMENDENIVGPEPFPIEGSAGALRYKMDRYAKLGAIAFTNALTGVDTYVAEYLE 60

QY 61 KSCCLGEALKNYGLVVDGRIALCSECEEFPIVLAGLFIGVGVAPTNEIYTLRELHSL 120
DB 61 KSCCLGEALKNYGLVVDGRIALCSECEEFPIVLAGLFIGVGVAPTNEIYTLRELHSL 120

QY 121 GISKPTIVFSSKGLDKVITVQKTVAITKIVILDSKVDYRGYQSMDFIKKNTPOGFKG 180
DB 121 GISKPTIVFSSKGLDKVITVQKTVAITKIVILDSKVDYRGYQSMDFIKKNTPOGFKG 180

QY 181 SSFKTVEVNRKEQVALIMNSSSGTGLPKGVQLTHENLVTRFSHARDPIYGNQVSPGTAIL 240
DB 181 SSFKTVEVNRKEQVALIMNSSSGTGLPKGVQLTHENLVTRFSHARDPIYGNQVSPGTAIL 240

QY 241 TVVPFHGGFMFTTGLYTCGFRIVMLTKFDETFELKTLQDYKCSVILVPTLFAILNRS 300
DB 241 TVVPFHGGFMFTTGLYTCGFRIVMLTKFDETFELKTLQDYKCSVILVPTLFAILNRS 300

QY 301 ELLDKYDLNLVEIASGGAPLSKEIGEAVARRFNLPGVRRGYGLTETTSALIIITPEGDDK 360
DB 301 ELLDKYDLNLVEIASGGAPLSKEIGEAVARRFNLPGVRRGYGLTETTSALIIITPEGDDK 360

QY 361 PGASGKVVPLFKAKVIDLTKTLGNRRGEVCVKGPMKMGYVDNPEATRIIDEGWL 420
DB 361 PGASGKVVPLFKAKVIDLTKTLGNRRGEVCVKGPMKMGYVDNPEATRIIDEGWL 420

QY 421 HTGDIGYDEEKHFIVDRILKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDIAG 480
DB 421 HTGDIGYDEEKHFIVDRILKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDIAG 480

QY 481 ELPGAUVVLEKGSMTKEVMYVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
DB 481 ELPGAUVVLEKGSMTKEVMYVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540

QY 541 LKPPVAK 547
DB 541 LKPPVAK 547

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RESULT 7
US-08-782-118-9
; Sequence 9, Application US/08782118
; Patent No. 5843746
; GENERAL INFORMATION:
; APPLICANT: TATSUMI, HIROKI
; APPLICANT: FUKUDA, SATOSHI
; APPLICANT: KIKUCHI, NAMORU
; APPLICANT: KOKAMA, YASUJI
; TITLE OF INVENTION: BIOTINYLATED FIREFLY LUCIFERASE, A GENE
; TITLE OF INVENTION: FOR BIOTINYLATED FIREFLY LUCIFERASE, A RECOMBINANT DNA, A
; TITLE OF INVENTION: PROCESS FOR PRODUCING BIOTINATED AND A BIOLUMINESCENT
; TITLE OF INVENTION: ANALYSIS METHOD
; NUMBER OF SEQUENCES: 14
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT,
; ADDRESSEE: P. C.
; STREET: 1755 S. JEFFERSON DAVIS HIGHWAY, FOURTH FLOOR
; CITY: ARLINGTON
; STATE: VA
; COUNTRY: USA
; ZIP: 22202
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/782,118
; FILING DATE: 13-JAN-1997
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/460,934
; FILING DATE: 05-JUN-1995
; APPLICATION NUMBER: JP 193798/1994
; FILING DATE: 27-JUL-1994
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: JP 54625/1995
; FILING DATE: 14-MAR-1995
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: JP 98857/1995
; FILING DATE: 24-APR-1995
; ATTORNEY/AGENT INFORMATION:
; NAME: OBLON, NORMAN F.
; REGISTRATION NUMBER: 24,618
; REFERENCE/DOCKET NUMBER: 7126-001-0
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 703-413-3000
; TELEFAX: 703-413-2220
; INFORMATION FOR SEQ ID NO: 9:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 636 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-782-118-9
Query Match 99.7%; Score 2814; DB 2; Length 636;
Best Local Similarity 99.8%; Pred. No. 4.6e-285;
Matches 546; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
Qy 1 MENNENDENIVGPEPPYPTTEESAGQLKYNDRYAKLGAFTALTGVDYTYAEYLE 60
Db 1 MENNENDENIVGPEPPYPTTEESAGQLKYNDRYAKLGAFTALTGVDYTYAEYLE 60
Qy 61 KSCCLGALKNYGLVNDGRIALSCENCEEFPVLAGLFIGVGAFTNEIYTLRELVHSL 120
Db 61 KSCCLGALKNYGLVNDGRIALSCENCEEFPVLAGLFIGVGAFTNEIYTLRELVHSL 120
Qy 121 GISKPTTVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQSMDFIKKNTPOGFKG 180
Db 121 GISKPTTVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQSMDFIKKNTPOGFKG 180

QY 181 SSFKTVEVRKEQVALIMNSSGSTGLPKGVQLTHENLVTRFSHARDPIYGNQVSPGTAIL 240
DB 181 SSFKTVEVRKEQVALIMNSSGSTGLPKGVQLTHENLVTRFSHARDPIYGNQVSPGTAIL 240
QY 241 TVPFFHGFGMFTTGLYLTGCFRIVMLTKFDEETFFLTKLDYKCSSVILVPTLFAILNRS 300
DB 241 TVPFFHGFGMFTTGLYLTGCFRIVMLTKFDEETFFLTKLDYKCSSVILVPTLFAILNRS 300
QY 301 ELLDKYDLSNLVEIASGAPLSKISGEAVARFNLPGVRQYGLTETTSAILIITPEGDDK 360
DB 301 ELLDKYDLSNLVEIASGAPLSKISGEAVARFNLPGVRQYGLTETTSAILIITPEGDDK 360
QY 361 PGASGVVPLFKAVIDLDTKTLGPNRGEVCVKGPMLMKGYVDNPEATREIIDEEGWL 420
DB 361 PGASGVVPLFKAVIDLDTKTLGPNRGEVCVKGPMLMKGYVDNPEATREIIDEEGWL 420
QY 421 HTGDIGYDEEKHFFIVDRLSLIKIKYGYQVPPAELESVLLQHPNIFDAGVGVDPDIAG 480
DB 421 HTGDIGYDEEKHFFIVDRLSLIKIKYGYQVPPAELESVLLQHPNIFDAGVGVDPDIAG 480
QY 481 ELPGAIVVLKKGKSMTEKEVMDYVASOVSNAKRLGGVRFVDEVPKGLTGKIDGKAIREI 540
DB 481 ELPGAIVVLKKGKSMTEKEVMDYVASOVSNAKRLGGVRFVDEVPKGLTGKIDGKAIREI 540
QY 541 LKXPVAK 547
DB 541 LKXPVAK 547

RESULT 8
US-08-487-183A-14
; Sequence 14, Application US/08487183A
; Patent No. 6387675
; GENERAL INFORMATION:
; APPLICANT: WOOD, Keith V.
; APPLICANT: GRUBER, Monika G.
; TITLE OF INVENTION: MUTANT LUCIFERASES
; NUMBER OF SEQUENCES: 16
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Foley & Lardner
; STREET: P. O. Box 1497
; CITY: Madison
; STATE: WI
; COUNTRY: USA
; ZIP: 53701-1497
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/487,183A
; FILING DATE: 06-JUN-1995
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/467,773
; FILING DATE: 06-JUN-1995
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/177,081
; FILING DATE: 03-JAN-1994
; ATTORNEY/AGENT INFORMATION:
; NAME: Scanlon, William J.
; REGISTRATION NUMBER: 31,136
; REFERENCE/DOCKET NUMBER: 19017/166
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (608)258-5035
; TELEFAX: (608)258-4258
; INFORMATION FOR SEQ ID NO: 14:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 548 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
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MOLECULE TYPE: protein
US-08-487-183A-14

Query Match 99.4%; Score 2806; DB 4; Length 548;
Best Local Similarity 99.5%; Pred. No. 2.4e-284;
Matches 545; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 1 MENMENDENIVGPPFPPIEESGAGALRKYMDRYAKLGAIAFTNALTGVDTYVAEYLE 60
DB 1 MENMENDENIVGPPFPPIEESGAGALRKYMDRYAKLGAIAFTNALTGVDTYVAEYLE 60
QY 61 KSCCLGEALKNYGLVVDGRIALCSECEFFIPVLAGLFIGVGAPTNETITLRLVHSL 120
DB 61 KSCCLGEALKNYGLVVDGRIALCSECEFFIPVLAGLFIGVGAPTNETITLRLVHSL 120
QY 121 GISKPTIVFSSKGLDKVITVQKTVAITKTIIVILDSKVDYRGYQSMDFIKKNTPOGFKG 180
DB 121 GISKPTIVFSSKGLDKVITVQKTVAITKTIIVILDSKVDYRGYQSMDFIKKNTPOGFKG 180
QY 181 SSFKTVEVNRKEQVALIMNSSSGTGLPKGVQLTHENLVTRFSHARDPIYGNQVSPGTAIL 240
DB 181 SSFKTVEVNRKEQVALIMNSSSGTGLPKGVQLTHENLVTRFSHARDPIYGNQVSPGTAIL 240
QY 241 TVPFFHGFMTTILGYLTGCFRIVMLTKFDEETFLKTLQDYKCSVILVPTLFAILNRS 300
DB 241 TVPFFHGFMTTILGYLTGCFRIVMLTKFDEETFLKTLQDYKCSVILVPTLFAILNRS 300
QY 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAVARRFNLPGRQGYGLTETTSIIITPEGDDK 360
DB 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAVARRFNLPGRQGYGLTETTSIIITPEGDDK 360
QY 361 PGASGKVVPLFAKVIDLDTKTLGNRRGEVCVKGPMKMGVYDNPATREIIDEGBWL 420
DB 361 PGASGKVVPLFAKVIDLDTKTLGNRRGEVCVKGPMKMGVYDNPATREIIDEGBWL 420
QY 421 HTGDIGYDEEKHFPIVDRLKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDIAG 480
DB 421 HTGDIGYDEEKHFPIVDRLKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDIAG 480
QY 481 ELPGAVVVLKKGKSMTEKEVMDYVASQVSNKRLRGGRFVDEVPKGLTGKIDGKAIREI 540
DB 481 ELPGAVVVLKKGKSMTEKEVMDYVASQVSNKRLRGGRFVDEVPKGLTGKIDGKAIREI 540
QY 541 LKKPVAKM 548
DB 541 LKKPVAKM 548

RESULT 9
US-09-396-154-28
; Sequence 28, Application US/09396154
; Patent No. 6602677
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Hall, Mary P.
; TITLE OF INVENTION: Thermostable luciferases and methods of
; FILE REFERENCE: 341.012US1
; CURRENT APPLICATION NUMBER: US/09/396,154
; EARLIER FILING DATE: 1999-09-15
; EARLIER APPLICATION NUMBER: US 09/156,946
; EARLIER FILING DATE: 1998-09-18
; EARLIER APPLICATION NUMBER: PCT/US98/19494
; EARLIER FILING DATE: 1998-09-18
; EARLIER APPLICATION NUMBER: US 60/059,379
; EARLIER FILING DATE: 1997-09-19
; NUMBER OF SEQ ID NOS: 93
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 28
; LENGTH: 548
; TYPE: PRT
; ORGANISM: Luciola lateralis
US-09-396-154-28

Query Match 99.4%; Score 2805; DB 4; Length 548;
Best Local Similarity 99.3%; Pred. No. 3.1e-284;
Matches 544; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 MENMENDENIVGPPFPPIEESGAGALRKYMDRYAKLGAIAFTNALTGVDTYVAEYLE 60
DB 1 MENMENDENIVGPPFPPIEESGAGALRKYMDRYAKLGAIAFTNALTGVDTYVAEYLE 60
QY 61 KSCCLGEALKNYGLVVDGRIALCSECEFFIPVLAGLFIGVGAPTNETITLRLVHSL 120
DB 61 KSCCLGEALKNYGLVVDGRIALCSECEFFIPVLAGLFIGVGAPTNETITLRLVHSL 120
QY 121 GISKPTIVFSSKGLDKVITVQKTVAITKTIIVILDSKVDYRGYQSMDFIKKNTPOGFKG 180
DB 121 GISKPTIVFSSKGLDKVITVQKTVAITKTIIVILDSKVDYRGYQSMDFIKKNTPOGFKG 180
QY 181 SSFKTVEVNRKEQVALIMNSSSGTGLPKGVQLTHENLVTRFSHARDPIYGNQVSPGTAIL 240
DB 181 SSFKTVEVNRKEQVALIMNSSSGTGLPKGVQLTHENLVTRFSHARDPIYGNQVSPGTAIL 240
QY 241 TVPFFHGFMTTILGYLTGCFRIVMLTKFDEETFLKTLQDYKCSVILVPTLFAILNRS 300
DB 241 TVPFFHGFMTTILGYLTGCFRIVMLTKFDEETFLKTLQDYKCSVILVPTLFAILNRS 300
QY 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAVARRFNLPGRQGYGLTETTSIIITPEGDDK 360
DB 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAVARRFNLPGRQGYGLTETTSIIITPEGDDK 360
QY 361 PGASGKVVPLFAKVIDLDTKTLGNRRGEVCVKGPMKMGVYDNPATREIIDEGBWL 420
DB 361 PGASGKVVPLFAKVIDLDTKTLGNRRGEVCVKGPMKMGVYDNPATREIIDEGBWL 420
QY 421 HTGDIGYDEEKHFPIVDRLKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDIAG 480
DB 421 HTGDIGYDEEKHFPIVDRLKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDIAG 480
QY 481 ELPGAVVVLKKGKSMTEKEVMDYVASQVSNKRLRGGRFVDEVPKGLTGKIDGKAIREI 540
DB 481 ELPGAVVVLKKGKSMTEKEVMDYVASQVSNKRLRGGRFVDEVPKGLTGKIDGKAIREI 540
QY 541 LKKPVAKM 548
DB 541 LKKPVAKM 548

RESULT 10
US-08-460-934-6
; Sequence 6, Application US/08460934
; Patent No. 5814465
; GENERAL INFORMATION:
; APPLICANT: TATSUMI, HIROKI
; APPLICANT: FUKUDA, SATOSHI
; APPLICANT: KIKUCHI, MAMORU
; APPLICANT: KOYAMA, YASUJI
; TITLE OF INVENTION: BIOTINYLATED FIREFLY LUCIFERASE, A GENE
; FILE REFERENCE: FOR BIOTINYLATED FIREFLY LUCIFERASE, A RECOMBINANT DNA, A
; CURRENT APPLICATION NUMBER: US/08/396,154
; EARLIER FILING DATE: 1999-09-15
; EARLIER APPLICATION NUMBER: US 08/156,946
; EARLIER FILING DATE: 1998-09-18
; EARLIER APPLICATION NUMBER: PCT/US98/19494
; EARLIER FILING DATE: 1998-09-18
; EARLIER APPLICATION NUMBER: US 60/059,379
; EARLIER FILING DATE: 1997-09-19
; NUMBER OF SEQUENCES: 14
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT,
; ADDRESSEE: P.C.
; STREET: 1755 S. JEFFERSON DAVIS HIGHWAY, FOURTH FLOOR
; CITY: ARLINGTON
; STATE: VA
; COUNTRY: USA
; ZIP: 22202
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30

; CURRENT APPLICATION DATA:
 ; APPLICATION NUMBER: US/08/460,934
 ; FILING DATE: 05-JUN-1995
 ; CLASSIFICATION: 435
 ; PRIOR APPLICATION DATA:
 ; APPLICATION NUMBER: JP 193798/1994
 ; FILING DATE: 27-JUL-1994
 ; PRIOR APPLICATION DATA:
 ; APPLICATION NUMBER: JP 54625/1995
 ; FILING DATE: 14-MAR-1995
 ; PRIOR APPLICATION DATA:
 ; APPLICATION NUMBER: JP 98857/1995
 ; FILING DATE: 24-APR-1995
 ; ATTORNEY/AGENT INFORMATION:
 ; NAME: OBLON, NORMAN F.
 ; REGISTRATION NUMBER: 24,618
 ; REFERENCE/DOCKET NUMBER: 7126-001-0
 ; TELECOMMUNICATION INFORMATION:
 ; TELEPHONE: 703-413-3000
 ; TELEFAX: 703-413-2220
 ; INFORMATION FOR SEQ ID NO: 6:
 ; SEQUENCE CHARACTERISTICS:
 ; LENGTH: 568 amino acids
 ; TYPE: amino acid
 ; TOPOLOGY: linear
 ; MOLECULE TYPE: protein
 ; US-08-460-934-6

Query Match 99.2%; Score 2801; DB 2; Length 568;
 Best Local Similarity 99.5%; Pred. No. 8.6e-284;
 Matches 543; Conservative 3; Mismatches 0; Indels 0; Gaps 0;
 QY 3 NMNDENIVGPPFPPIEBGSGAQLRKYMDRYAKLGAIAFTNALTGVDTYVAEYLEKS 62
 DB 23 SLENDENIVGPPFPPIEBGSGAQLRKYMDRYAKLGAIAFTNALTGVDTYVAEYLEKS 82
 QY 63 CCLGEALKNGLVVDGRIALCSCNCEFFPIVLAGLFIGVGVAFTNEIYTLRELHSLGI 122
 DB 83 CCLGEALKNGLVVDGRIALCSCNCEFFPIVLAGLFIGVGVAFTNEIYTLRELHSLGI 142
 QY 123 SKPTIVFSSKKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQSMDFIKKNTPOGFKGSS 182
 DB 143 SKPTIVFSSKKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQSMDFIKKNTPOGFKGSS 202
 QY 183 FKTVEVNRKEQVALINSSGSGTGLPKGVOLTHENLVTRFSHARDPIYGNQVSPGTAILTV 242
 DB 203 FKTVEVNRKEQVALINSSGSGTGLPKGVOLTHENLVTRFSHARDPIYGNQVSPGTAILTV 262
 QY 243 VPFHGFGMFTTLGYLTCGFRIVMLTKFDEETFLKTDYKCSSVILVPTLFAILNRSEL 302
 DB 263 VPFHGFGMFTTLGYLTCGFRIVMLTKFDEETFLKTDYKCSSVILVPTLFAILNRSEL 322
 QY 303 LDKYDLSNLVEIASGAPISKEIGAVARFNLPGVRCYGLTETTSALITPEGDDKPG 362
 DB 323 LDKYDLSNLVEIASGAPISKEIGAVARFNLPGVRCYGLTETTSALITPEGDDKPG 382
 QY 363 ASGVVPLFKAKVIDLDTKTLGPNRRGVCYKGPMLMKGYVDNPEATREIIDEGWLHT 422
 DB 383 ASGVVPLFKAKVIDLDTKTLGPNRRGVCYKGPMLMKGYVDNPEATREIIDEGWLHT 442
 QY 423 GDTGYDDEEKHFPIVDRLSKLIKYGQVPPAELESVILLOHNI PDAGVAGVDPDIAGEL 482
 DB 443 GDTGYDDEEKHFPIVDRLSKLIKYGQVPPAELESVILLOHNI PDAGVAGVDPDIAGEL 502
 QY 483 PGAVVVLKKGKSTEXEVDYVYASQVSNARLGGVRFVDEVPKGLTGKIDGKAIREILK 542
 DB 503 PGAVVVLKKGKSTEXEVDYVYASQVSNARLGGVRFVDEVPKGLTGKIDGKAIREILK 562
 QY 543 KPVAKM 548
 DB 563 KPVAKM 568

RESULT 11
 US-08-782-118-6
 ; Sequence 6, Application US/08782118
 ; Patent No. 5843746
 ; GENERAL INFORMATION:
 ; APPLICANT: TATSUMI, HIROKI
 ; APPLICANT: KIKUCHI, SATOSHI
 ; APPLICANT: KIKUCHI, MAMORU
 ; APPLICANT: KOYAMA, YASUJI
 ; TITLE OF INVENTION: BIOTINYLATED FIREFLY LUCIFERASE, A GENE
 ; TITLE OF INVENTION: FOR BIOTINYLATED FIREFLY LUCIFERASE, A RECOMBINANT DNA, A
 ; TITLE OF INVENTION: PROCESS FOR PRODUCING BIOTINATED AND A BIOLUMINESCENT
 ; TITLE OF INVENTION: ANALYSIS METHOD
 ; NUMBER OF SEQUENCES: 14
 ; CORRESPONDENCE ADDRESS:
 ; ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT,
 ; ADDRESS: P.C.
 ; STREET: 1755 S. JEFFERSON DAVIS HIGHWAY, FOURTH FLOOR
 ; CITY: ARLINGTON
 ; COUNTRY: USA
 ; STATE: VA
 ; ZIP: 22202
 ; COMPUTER READABLE FORM:
 ; MEDIUM TYPE: Floppy disk
 ; COMPUTER: IBM PC compatible
 ; OPERATING SYSTEM: PC-DOS/MS-DOS
 ; SOFTWARE: Patent In Release #1.0, Version #1.30
 ; CURRENT APPLICATION DATA:
 ; APPLICATION NUMBER: US/08/782,118
 ; FILING DATE: 13-JAN-1997
 ; CLASSIFICATION: 435
 ; PRIOR APPLICATION DATA:
 ; APPLICATION NUMBER: US 08/460,934
 ; FILING DATE: 05-JUN-1995
 ; APPLICATION NUMBER: JP 193798/1994
 ; FILING DATE: 27-JUL-1994
 ; PRIOR APPLICATION DATA:
 ; APPLICATION NUMBER: JP 54625/1995
 ; FILING DATE: 14-MAR-1995
 ; PRIOR APPLICATION DATA:
 ; APPLICATION NUMBER: JP 98857/1995
 ; FILING DATE: 24-APR-1995
 ; ATTORNEY/AGENT INFORMATION:
 ; NAME: OBLON, NORMAN F.
 ; REGISTRATION NUMBER: 24,618
 ; REFERENCE/DOCKET NUMBER: 7126-001-0
 ; TELECOMMUNICATION INFORMATION:
 ; TELEPHONE: 703-413-3000
 ; TELEFAX: 703-413-2220
 ; INFORMATION FOR SEQ ID NO: 6:
 ; SEQUENCE CHARACTERISTICS:
 ; LENGTH: 568 amino acids
 ; TYPE: amino acid
 ; TOPOLOGY: linear
 ; MOLECULE TYPE: protein
 ; US-08-782-118-6

Query Match 99.2%; Score 2801; DB 2; Length 568;
 Best Local Similarity 99.5%; Pred. No. 8.6e-284;
 Matches 543; Conservative 3; Mismatches 0; Indels 0; Gaps 0;
 QY 3 NMNDENIVGPPFPPIEBGSGAQLRKYMDRYAKLGAIAFTNALTGVDTYVAEYLEKS 62
 DB 23 SLENDENIVGPPFPPIEBGSGAQLRKYMDRYAKLGAIAFTNALTGVDTYVAEYLEKS 82
 QY 63 CCLGEALKNGLVVDGRIALCSCNCEFFPIVLAGLFIGVGVAFTNEIYTLRELHSLGI 122
 DB 83 CCLGEALKNGLVVDGRIALCSCNCEFFPIVLAGLFIGVGVAFTNEIYTLRELHSLGI 142
 QY 123 SKPTIVFSSKKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQSMDFIKKNTPOGFKGSS 182
 DB 143 SKPTIVFSSKKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQSMDFIKKNTPOGFKGSS 202

QY 183 FKTVEVRKEQVALIMNSSGSTGLPKGVOLTHENLVTRFSHARDPIYGNVSPGTAITLV 242
DB 203 FKTVEVRKEQVALIMNSSGSTGLPKGVOLTHENLVTRFSHARDPIYGNVSPGTAITLV 262
QY 243 VPFHGFMTTGLYLTCTGFRIVMLTKFDEBTFLLKLDQYKSSVILVPTLFAILNRSEL 302
DB 263 VPFHGFMTTGLYLTCTGFRIVMLTKFDEBTFLLKLDQYKSSVILVPTLFAILNRSEL 322
QY 303 LQYDLSNLVETASGAPLSKEIGAVARRNLPVROGYGLTETTSALITTPBGDDK 362
DB 323 LQYDLSNLVETASGAPLSKEIGAVARRNLPVROGYGLTETTSALITTPBGDDK 382
QY 363 ASGKVVPFLFAKVIDLDTKTLGPNRRGEVCVKGPMLMKGYVDNPEATREIIDEESWL 422
DB 383 ASGKVVPFLFAKVIDLDTKTLGPNRRGEVCVKGPMLMKGYVDNPEATREIIDEESWL 442
QY 423 GDIGYDEEKHFFIVDRLSLKIYKGYQVPPAELESVLLQHPNIFDAGVAGVDDPIAG 482
DB 443 GDIGYDEEKHFFIVDRLSLKIYKGYQVPPAELESVLLQHPNIFDAGVAGVDDPIAG 502
QY 483 PGAVVVLKKGKSMTEKVMYDVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 542
DB 503 PGAVVVLKKGKSMTEKVMYDVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 562
QY 543 KPVAKM 548
DB 563 KPVAKM 568

RESULT 12
US-09-602-628-10
; Sequence 10, Application US/09602628
; Patent No. 6495355
; GENERAL INFORMATION:
; APPLICANT: Eames, Brian
; APPLICANT: Contag, Christopher
; TITLE OF INVENTION: Red-Shifted Luciferase
; FILE REFERENCE: SUN-127
; CURRENT APPLICATION NUMBER: US/09/602,628
; CURRENT FILING DATE: 2000-06-21
; PRIOR APPLICATION NUMBER: 60/140,598
; PRIOR FILING DATE: 1999-06-22
; NUMBER OF SEQ ID NOS: 12
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 10
; LENGTH: 548
; TYPE: PRT
; ORGANISM: Luciola lateralis
US-09-602-628-10

Query Match 98.9%; Score 2793; DB 4; Length 548;
Best Local Similarity 98.7%; Pred. No. 5.6e-283;
Matches 541; Conservative 4; Mismatches 3; Indels 0; Gaps 0;

QY 1 MENMENDENIVGPEPPYPIEGSAGALRYKMDRYAKLGAIAFTNALTGVDTYTAAYLE 60
DB 1 MENMENDENIVGPEPPYPIEGSAGALRYKMDRYAKLGAIAFTNALTGVDTYTAAYLE 60

QY 61 KSCCLGEALKNYGLVVDGRIALCSECEFFIPVLAGLFIGVGVAPTNEYITLRELHSL 120
DB 61 KSCCLGEALKNYGLVVDGRIALCSECEFFIPVLAGLFIGVGVAPTNEYITLRELHSL 120

QY 121 GISKPTIVFSSKGLDKVITVQKTVTAITVILDSKVDRYQSQMDNFIKNTTPQGPFG 180
DB 121 GISKPTIVFSSKGLDKVITVQKTVTAITVILDSKVDRYQSQMDNFIKNTTPQGPFG 180

QY 181 SSKFTVEVRKEQVALIMNSSGSTGLPKGVOLTHENLVTRFSHARDPIYGNVSPGTAITLV 240
DB 181 SSKFTVEVRKEQVALIMNSSGSTGLPKGVOLTHENLVTRFSHARDPIYGNVSPGTAITLV 240

QY 241 TVVPFHGFGMTTGLYLTCTGFRIVMLTKFDEBTFLLKLDQYKSSVILVPTLFAILNRSEL 300
DB 241 TVVPFHGFGMTTGLYLTCTGFRIVMLTKFDEBTFLLKLDQYKSSVILVPTLFAILNRSEL 300

QY 301 ELLDKYDLSNLVETASGAPLSKEIGAVARRNLPVROGYGLTETTSALITTPBGDDK 360
DB 301 ELLDKYDLSNLVETASGAPLSKEIGAVARRNLPVROGYGLTETTSALITTPBGDDK 360

QY 361 PGAGSKVVPFLFAKVIDLDTKTLGPNRRGEVCVKGPMLMKGYVDNPEATREIIDEESWL 420
DB 361 PGAGSKVVPFLFAKVIDLDTKTLGPNRRGEVCVKGPMLMKGYVDNPEATREIIDEESWL 420

QY 421 HTGDIGYDEEKHFFIVDRLSLKIYKGYQVPPAELESVLLQHPNIFDAGVAGVDDPIAG 480
DB 421 HTGDIGYDEEKHFFIVDRLSLKIYKGYQVPPAELESVLLQHPNIFDAGVAGVDDPIAG 480

QY 481 ELPGAVVVLKKGKSMTEKVMYDVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
DB 481 ELPGAVVVLKKGKSMTEKVMYDVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540

QY 541 LKPEVAKM 548
DB 541 LKPEVAKM 548

RESULT 13
US-09-111-752-10
; Sequence 10, Application US/09111752
; Patent No. 6074859
; GENERAL INFORMATION:
; APPLICANT: HIROKAWA, KOZO
; APPLICANT: KAJIYAMA, NAOKI
; APPLICANT: MURAKAMI, SEIJI
; TITLE OF INVENTION: MUTANT-TYPE BIOLUMINESCENT PROTEIN, AND
; TITLE OF INVENTION: PROCESS FOR PRODUCING MUTANT-TYPE BIOLUMINESCENT PROTEIN
; NUMBER OF SEQUENCES: 14
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: P.C.
; ADDRESS: 1755 S. JEFFERSON DAVIS HIGHWAY, SUITE 400
; CITY: ARLINGTON
; STATE: VA
; COUNTRY: USA
; ZIP: 22202
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patentin Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/111.752
; FILING DATE: 08-JUL-1998
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: OBLON, NORMAN F.
; REGISTRATION NUMBER: 24,618
; REFERENCE/DOCKET NUMBER: 7126-0009-0
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 703-413-3000
; TELEFAX: 703-413-2220
; INFORMATION FOR SEQ ID NO: 10:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 552 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; ORIGINAL SOURCE:
; ORGANISM: Luciola lateralis, Photinus pyralis
US-09-111-752-10

Query Match 95.7%; Score 2703; DB 3; Length 552;
Best Local Similarity 96.3%; Pred. No. 1.5e-273;
Matches 523; Conservative 10; Mismatches 10; Indels 0; Gaps 0;

QY 1 MENMENDENIVGPEPPYPIEGSAGALRYKMDRYAKLGAIAFTNALTGVDTYTAAYLE 60

Db 1 MENMENDENIVGPEFFPIEBSAGAKRKYMDRYAKLGAIAFTNALTGVDYTYAEYLE 60
QY 61 KSCCLGEALKNYGLVVDGRIALSCENCEEFFIPVLAGLFIQVGVAPTNEIYTLRELHVSL 120
Db 61 KSCCLGEALKNYGLVVDGRIALSCENCEEFFIPVLAGLFIQVGVAPTNEIYTLRELHVSL 120
QY 121 GISKPTIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGVQSMDFIKKNTPOGFKG 180
Db 121 GISKPTIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGVQSMDFIKKNTPOGFKG 180
QY 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENLVTRFSHARDPIYGNQVSPGTAIL 240
Db 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENLVTRFSHARDPIYGNQVSPGTAIL 240
QY 241 TVVPFHGFGMFTTGLYTCGFRIVMLTKPDEBTFKTLQDYKCSVILVPTLFAILNRS 300
Db 241 TVVPFHGFGMFTTGLYTCGFRIVMLTKPDEBTFKTLQDYKCSVILVPTLFAILNRS 300
QY 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAARRENLPGVQGYCLTETTSAILIITPEGDDK 360
Db 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAARRENLPGVQGYCLTETTSAILIITPEGDDK 360
QY 361 PGASGVVPLFKAKVIDLDTKTLGPNRRGEVCKGPMKMGVYDNPENATREIIDEEGWL 420
Db 361 PGASGVVPLFKAKVIDLDTKTLGPNRRGEVCKGPMKMGVYDNPENATREIIDEEGWL 420
QY 421 HTGDIGYDEEKHFFIVDRKLSLIKYGQVPAELESVILLOHPNIFDAGVAGVDPPIAG 480
Db 421 HTGDIGYDEEKHFFIVDRKLSLIKYGQVPAELESVILLOHPNIFDAGVAGVDPPIAG 480
QY 481 ELPGAVVVLKKGKSMTEKEVMDYVASQVSNAKRLRGVRFVDEVPKGLTGKIDKAIKREI 540
Db 481 ELPGAVVVLKKGKSMTEKEVMDYVASQVSNAKRLRGVRFVDEVPKGLTGKIDKAIKREI 540
QY 541 LKK 543
Db 541 LK 543

RESULT 14

US-07-675-211-2
; Sequence 2, Application US/07675211
; Patent No. 5219737
; GENERAL INFORMATION:
; APPLICANT: KAJIYAMA, NAOKI
; APPLICANT: NAKANO, EIICHI
; TITLE OF INVENTION: MUTANT LUCIFERASE OF A FIREFLY, MUTANT
; TITLE OF INVENTION: LUCIFERASE GENES, NOVEL RECOMBINANT DNAS CONTAINING THE
; TITLE OF INVENTION: GENES AND A METHOD OF PRODUCING MUTANT LUCIFERASE
; NUMBER OF SEQUENCES: 4
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: PENNIE & EDMONDS
; STREET: 1155 AVENUE OF THE AMERICAS
; CITY: NEW YORK
; STATE: N.Y.
; COUNTRY: U.S.A.
; ZIP: 10036
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; OPERATING SYSTEM: IBM PC compatible
; SOFTWARE: Patent In Release #1.0, Version #1.25
; CURRENT APPLICATION DATA: US/07/675,211
; APPLICATION NUMBER: 18,872
; FILING DATE: 19910326
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: MISROCK, S. LESLIE
; REGISTRATION NUMBER: 18,872
; REFERENCE/DOCKET NUMBER: 7005-026-999
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 212-790-9090

; TELEFAX: 212-869-9741
; TELEX: 66141 PENNIE
; INFORMATION FOR SEQ ID NO: 2:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 548 amino acids
; TYPE: AMINO ACID
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; ORIGINAL SOURCE:
; ORGANISM: Luciola cruciata
; US-07-675-211-2
Query Match 95.1%; Score 2684; DB 1; Length 548;
Best Local Similarity 93.4%; Pred. No. 1.4e-271; Mismatches 10; Indels 0; Gaps 0;
Matches 512; Conservative 26;
QY 1 MENMENDENIVGPEFFPIEBSAGAKRKYMDRYAKLGAIAFTNALTGVDYTYAEYLE 60
Db 1 MENMENDENIVGPEFFPIEBSAGAKRKYMDRYAKLGAIAFTNALTGVDYTYAEYLE 60
QY 61 KSCCLGEALKNYGLVVDGRIALSCENCEEFFIPVLAGLFIQVGVAPTNEIYTLRELHVSL 120
Db 61 KSCCLGEALKNYGLVVDGRIALSCENCEEFFIPVLAGLFIQVGVAPTNEIYTLRELHVSL 120
QY 121 GISKPTIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGVQSMDFIKKNTPOGFKG 180
Db 121 GISKPTIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGVQSMDFIKKNTPOGFKG 180
QY 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENLVTRFSHARDPIYGNQVSPGTAIL 240
Db 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENLVTRFSHARDPIYGNQVSPGTAIL 240
QY 241 TVVPFHGFGMFTTGLYTCGFRIVMLTKPDEBTFKTLQDYKCSVILVPTLFAILNRS 300
Db 241 TVVPFHGFGMFTTGLYTCGFRIVMLTKPDEBTFKTLQDYKCSVILVPTLFAILNRS 300
QY 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAARRENLPGVQGYCLTETTSAILIITPEGDDK 360
Db 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAARRENLPGVQGYCLTETTSAILIITPEGDDK 360
QY 361 PGASGVVPLFKAKVIDLDTKTLGPNRRGEVCKGPMKMGVYDNPENATREIIDEEGWL 420
Db 361 PGASGVVPLFKAKVIDLDTKTLGPNRRGEVCKGPMKMGVYDNPENATREIIDEEGWL 420
QY 421 HTGDIGYDEEKHFFIVDRKLSLIKYGQVPAELESVILLOHPNIFDAGVAGVDPPIAG 480
Db 421 HTGDIGYDEEKHFFIVDRKLSLIKYGQVPAELESVILLOHPNIFDAGVAGVDPPIAG 480
QY 481 ELPGAVVVLKKGKSMTEKEVMDYVASQVSNAKRLRGVRFVDEVPKGLTGKIDKAIKREI 540
Db 481 ELPGAVVVLKKGKSMTEKEVMDYVASQVSNAKRLRGVRFVDEVPKGLTGKIDKAIKREI 540
QY 541 LKPEVAKM 548
Db 541 LKPEVAKM 548

RESULT 15

US-07-903-047-2
; Sequence 2, Application US/07903047
; Patent No. 5229285
; GENERAL INFORMATION:
; APPLICANT: KAJIYAMA, NAOKI
; APPLICANT: NAKANO, EIICHI
; TITLE OF INVENTION: Thermostable Luciferase Of Firefly,
; TITLE OF INVENTION: Thermostable Luciferase Gene Of Firefly, No. 5229285el Recombir
; TITLE OF INVENTION: DNA, And Process For The Preparation Of Thermostable
; TITLE OF INVENTION: Luciferase Of Firefly
; NUMBER OF SEQUENCES: 11
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Pennie & Edmonds
; STREET: 1155 Avenue of the Americas
; CITY: New York


```

; STATE: New York
; COUNTRY: U.S.A.
; ZIP: 10036-2711
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patentin Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/903,047
; FILING DATE: 19920623
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: Misrock, S. Leslie
; REGISTRATION NUMBER: 18,872
; REFERENCE/DOCKET NUMBER: 7005-048
; TELEPHONE: 212 790-9090
; TELEX: 66141 PENNIE
; INFORMATION FOR SEQ ID NO: 2:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 548 amino acids
; TYPE: AMINO ACID
; STRANDEDNESS: single
; TOPOLOGY: unknown
; MOLECULE TYPE: peptide
US-07-903-047-2

Query Match 95.1%; Score 2684; DB 1; Length 548;
Best Local Similarity 93.4%; Pred. No. 1.4e-271;
Matches 512; Conservative 26; Mismatches 10; Indels 0; Gaps 0;

QY 1 MENMENDENIVVGPPEFYPIEESAGQRLKYMDRVAKLGAIAFTNALTGVDTYAEYLE 60
DB 1 MENMENDENIVVGPPEFYPIEESAGTQLRKYMERVAKLGAIAFTNAVTVGVDSYAEYLE 60
QY 61 KSCCLGEALKNVGLVVDGRIALCSENCEBFFIPVLAGLFIGVGVAPTNIEIYTLRELVHSL 120
DB 61 KSCCLGKALQNYGLVVDGRIALCSENCEBFFIPVLAGLFIGVGVAPTNIEIYTLRELVHSL 120
QY 121 GISKPTIVSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGVQSMDFIKKNTPOGFKG 180
DB 121 GISKPTIVSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGVQSMDFIKKNTPOGFKG 180
QY 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENLVTRFSHARDPIYGNQVSPGTAIL 240
DB 181 SSFKTVEVDRKEQVALIMNSSGSTGLPKGVQLTHENLVTRFSHARDPIYGNQVSPGTAVL 240
QY 421 HTGDIQYDEEKHFFIVDRILKSLIKYKGYQVPPAELESVLLQHPNIFDAGVAGVDPPIAG 480
DB 421 HTGDIQYDEEKHFFIVDRILKSLIKYKGYQVPPAELESVLLQHPNIFDAGVAGVDPPIAG 480
QY 481 ELPGAIVVLLKKGSMTEKEMVDYVASQVNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
DB 481 ELPGAIVVLESQKMTKEKEMVDYVASQVNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
QY 541 LKKPVAKM 548
DB 541 LKKPVAKM 548

; US-08-076-042-2
; Sequence 2, Application US/08076042
; Patent No. 5330906
; GENERAL INFORMATION:
; APPLICANT: KAJIYAMA, NAOKI
; APPLICANT: NAKANO, EIICHI
; TITLE OF INVENTION: MUTANT LUCIFERASE OF A FIREFLY, MUTANT
; TITLE OF INVENTION: LUCIFERASE GENES, NOVEL RECOMBINANT DNAS CONTAINING THE
; TITLE OF INVENTION: GENES AND A METHOD OF PRODUCING MUTANT LUCIFERASE
; NUMBER OF SEQUENCES: 4
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: PENNIE & EDMONDS
; STREET: 1155 AVENUE OF THE AMERICAS
; CITY: NEW YORK
; STATE: N.Y.
; COUNTRY: U.S.A
; ZIP: 10036
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patentin Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/076,042
; FILING DATE: 15-JUN-1993
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/675,211
; FILING DATE: 26-MAR-1991
; NAME: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: MISROCK, S. LESLIE
; REGISTRATION NUMBER: 18,872
; REFERENCE/DOCKET NUMBER: 7005-026-999
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 212-790-9090
; TELEX: 66141 PENNIE
; INFORMATION FOR SEQ ID NO: 2:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 548 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; ORIGINAL SOURCE:
; ORGANISM: Luciola cruciata
US-08-076-042-2

Query Match 95.1%; Score 2684; DB 1; Length 548;
Best Local Similarity 93.4%; Pred. No. 1.4e-271;
Matches 512; Conservative 26; Mismatches 10; Indels 0; Gaps 0;

QY 1 MENMENDENIVVGPPEFYPIEESAGQRLKYMDRVAKLGAIAFTNALTGVDTYAEYLE 60
DB 1 MENMENDENIVVGPPEFYPIEESAGTQLRKYMERVAKLGAIAFTNAVTVGVDSYAEYLE 60
QY 61 KSCCLGEALKNVGLVVDGRIALCSENCEBFFIPVLAGLFIGVGVAPTNIEIYTLRELVHSL 120
DB 61 KSCCLGKALQNYGLVVDGRIALCSENCEBFFIPVLAGLFIGVGVAPTNIEIYTLRELVHSL 120
QY 121 GISKPTIVSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGVQSMDFIKKNTPOGFKG 180
DB 121 GISKPTIVSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGVQSMDFIKKNTPOGFKG 180
QY 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENLVTRFSHARDPIYGNQVSPGTAIL 240
DB 181 SSFKTVEVDRKEQVALIMNSSGSTGLPKGVQLTHENLVTRFSHARDPIYGNQVSPGTAVL 240
QY 241 TVPFFHFGFMFTTLGYLTCGFRIVMLTKDEEFLKTIQDYKCSVILVPTLFAILNRS 300
DB 241 TVPFFHFGFMFTTLGYLICGFRVVMLTKDEEFLKTIQDYKCSVILVPTLFAILNRS 300
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QY 301 ELLDKYDLSNLVEIASGAPLSKEIGAVARRNLPFGVQGYGLTETTTSAIIITPEGDDK 360
 DB 301 ELLNKYDLSNLVEIASGAPLSKEIGAVARRNLPFGVQGYGLTETTTSAIIITPEGDDK 360
 QY 361 PGASGKVVPLFKAKVIDLDTKTLGNRRGEVCVKGPMKMGVVDNPEATRIIIDEEGWL 420
 DB 361 PGASGKVVPLFKAKVIDLDTKTLGNRRGEVCVKGPMKMGVVDNPEATRIIIDEEGWL 420
 QY 421 HTGDIGYDDEKHEFFIVDRLSLTKYKGVOVPPAELESVLLQHPNIFDAGVGPDPPIAG 480
 DB 421 HTGDIGYDDEKHEFFIVDRLSLTKYKGVOVPPAELESVLLQHPNIFDAGVGPDPPIAG 480
 QY 481 ELPGAVVVLKKGKSMTEKEVMDYVAVSQVSNAKELRGVRFVDEVPKGLTGKIDGKAIREI 540
 DB 481 ELPGAVVVLKKGKSMTEKEVMDYVAVSQVSNAKELRGVRFVDEVPKGLTGKIDGKAIREI 540
 QY 541 LKXPVAKM 548
 DB 541 LKXPVAKM 548

RESULT 17

US-09-380-061B-14
 ; Sequence 14, Application US/09380061B
 ; Patent No. 6265177
 ; GENERAL INFORMATION:
 ; APPLICANT: SQUIRRELL, DAVID JAMES
 ; WHITE, PETER JOHN
 ; LOWE, CHRISTOPHER ROBIN
 ; MURRAY, JAMES AUGUSTUS HENRY
 ; TITLE OF INVENTION: ENZYME ASSAY FOR MUTANT FIREFLY LUCIFERASE
 ; NUMBER OF SEQUENCES: 21
 ; CORRESPONDENCE ADDRESS:
 ; ADDRESSEE: NIXON & VANDERHVE P.C.
 ; STREET: 1100 NORTH GLEBE ROAD
 ; CITY: ARLINGTON
 ; STATE: VIRGINIA
 ; COUNTRY: U.S.A.
 ; ZIP: 22201-4714
 ; COMPUTER READABLE FORM:
 ; MEDIUM TYPE: Floppy disk
 ; COMPUTER: IBM PC compatible
 ; OPERATING SYSTEM: PC-DOS/MS-DOS
 ; SOFTWARE: Patent in Release #1.0, Version #1.25 (EPO)
 ; CURRENT APPLICATION DATA:
 ; APPLICATION NUMBER: US/09/380,061B
 ; FILING DATE: 25-Aug-1999
 ; CLASSIFICATION: <Unknown>

PRIOR APPLICATION DATA:
 ; APPLICATION NUMBER: PCT/GB98/01026
 ; FILING DATE: 7-APR-1998
 ; APPLICATION NUMBER: GB 9707468.8
 ; FILING DATE: 11-APR-1997
 ; ATTORNEY/AGENT INFORMATION:
 ; NAME: SADOFF, B. J.
 ; REGISTRATION NUMBER: 36,663
 ; REFERENCE/DOCKET NUMBER: 124-725
 ; TELECOMMUNICATION INFORMATION:
 ; TELEPHONE: (703)816-4000
 ; TELEFAX: (703)816-4100
 ; INFORMATION FOR SEQ ID NO: 14:
 ; SEQUENCE CHARACTERISTICS:
 ; LENGTH: 548 amino acids
 ; TYPE: amino acid
 ; TOPOLOGY: linear
 ; MOLECULE TYPE: protein
 ; SEQUENCE DESCRIPTION: SEQ ID NO: 14:
 US-09-380-061B-14

Query Match 95.1%; Score 2684; DB 3; Length 548;
 Best Local Similarity 93.4%; Pred. No. 1.4e-271;
 Matches 512; Conservative 26; Mismatches 10; Indels 0; Gaps 0;

QY 1 MENMENDENIVYGPEPPYPIEBSAGALQRLKYMWDRIYAKLGAIAFTNALTGVDVYAYEYLE 60
 DB 1 MENMENDENIVVGPKFPYPIEBSAGTQLRKYMERYAKLGAIAFTNALTGVDVYAYEYLE 60
 QY 61 KSCCLGKALQNYGLVVDGRIALCSNCEEEFFIPVLAGLFIGVGVAPTNIEYTLRELAVHSL 120
 DB 61 KSCCLGKALQNYGLVVDGRIALCSNCEEEFFIPVLAGLFIGVGVAPTNIEYTLRELAVHSL 120
 QY 121 GISKPTIVFSKGLDKVITVQKTVTAIKTIVILDSKVDYRGYSMDNFTKKNTPOQFGK 180
 DB 121 GISKPTIVFSKGLDKVITVQKTVTAIKTIVILDSKVDYRGYSMDNFTKKNTPOQFGK 180
 QY 181 SSFKTVENRKEQVALTMNSSGTGLPKGVQLTHENLVTRFSHARDPIYGNQVSPGTAVL 240
 DB 181 SSFKTVENRKEQVALTMNSSGTGLPKGVQLTHENLVTRFSHARDPIYGNQVSPGTAVL 240
 QY 241 TVPFFHGFMTTGLYTCGFRIVMLTKFEETFLKTLQDYKCSVILVPTLFAILNRS 300
 DB 241 TVPFFHGFMTTGLYTCGFRIVMLTKFEETFLKTLQDYKCSVILVPTLFAILNRS 300
 QY 301 ELLDKYDLSNLVEIASGAPLSKEIGAVARRNLPFGVQGYGLTETTTSAIIITPEGDDK 360
 DB 301 ELLNKYDLSNLVEIASGAPLSKEIGAVARRNLPFGVQGYGLTETTTSAIIITPEGDDK 360
 QY 361 PGASGKVVPLFKAKVIDLDTKTLGNRRGEVCVKGPMKMGVVDNPEATRIIIDEEGWL 420
 DB 361 PGASGKVVPLFKAKVIDLDTKTLGNRRGEVCVKGPMKMGVVDNPEATRIIIDEEGWL 420
 QY 421 HTGDIGYDDEKHEFFIVDRLSLTKYKGVOVPPAELESVLLQHPNIFDAGVGPDPPIAG 480
 DB 421 HTGDIGYDDEKHEFFIVDRLSLTKYKGVOVPPAELESVLLQHPNIFDAGVGPDPPIAG 480
 QY 481 ELPGAVVVLKKGKSMTEKEVMDYVAVSQVSNAKELRGVRFVDEVPKGLTGKIDGKAIREI 540
 DB 481 ELPGAVVVLKKGKSMTEKEVMDYVAVSQVSNAKELRGVRFVDEVPKGLTGKIDGKAIREI 540
 QY 541 LKXPVAKM 548
 DB 541 LKXPVAKM 548

RESULT 18

US-09-396-154-27
 ; Sequence 27, Application US/09396154
 ; Patent No. 6602677
 ; GENERAL INFORMATION:
 ; APPLICANT: Wood, Keith V.
 ; APPLICANT: Hall, Mary P.
 ; TITLE OF INVENTION: Thermostable luciferases and methods of
 ; FILE REFERENCE: 341.012US1
 ; CURRENT APPLICATION NUMBER: US/09/396,154
 ; CURRENT FILING DATE: 1999-09-15
 ; EARLIER APPLICATION NUMBER: US 09/156,946
 ; EARLIER FILING DATE: 1998-09-18
 ; EARLIER APPLICATION NUMBER: PCT/US98/19494
 ; EARLIER FILING DATE: 1998-09-18
 ; EARLIER APPLICATION NUMBER: US 60/059,379
 ; EARLIER FILING DATE: 1997-09-19
 ; NUMBER OF SEQ ID NOS: 93
 ; SOFTWARE: FastSeq for Windows Version 3.0
 ; SEQ ID NO 27
 ; LENGTH: 548
 ; TYPE: PRT
 ; ORGANISM: Luciola cruciata
 ; US-09-396-154-27

Query Match 95.1%; Score 2684; DB 4; Length 548;
 Best Local Similarity 93.4%; Pred. No. 1.4e-271;
 Matches 512; Conservative 26; Mismatches 10; Indels 0; Gaps 0;

QY 1 MENMENDENIVYGPEPPYPIEBSAGALQRLKYMWDRIYAKLGAIAFTNALTGVDVYAYEYLE 60

Db 1 MENMENENIVGPKFPPIEBSAGTQLRKYERYAKLGAFTNAVTVGVDSYAEYLE 60
QY 61 KSCCLGEALKNYGLVVDGRIALCSNCEBFFIPVLAGLFIGVGVAPTNEIYTLRELHSL 120
Db 61 KSCCLGKALQNYGLVVDGRIALCSNCEBFFIPVLAGLFIGVGVAPTNEIYTLRELHSL 120
QY 121 GISKPTIVFSSKGLDKVITVQKTVTAITVILDSKVDYRGVQSMDFIKNTPOGPKG 180
Db 121 GISKPTIVFSSKGLDKVITVQKTVTAITVILDSKVDYRGVQSMDFIKNTPOGPKG 180
QY 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENLVTRFSHARDPIYGNQVSPGTAIL 240
Db 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENLVTRFSHARDPIYGNQVSPGTAIL 240
QY 241 TVPFFHFGMFTTLGYLTCGRFRIWMLTKFDEBETFLKLDQYKCTSVILVPTLFAILNRS 300
Db 241 TVPFFHFGMFTTLGYLTCGRFRIWMLTKFDEBETFLKLDQYKCTSVILVPTLFAILNRS 300
QY 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAVARRFNLPGVQGYGLTETTSAILIITPEGDDK 360
Db 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAVARRFNLPGVQGYGLTETTSAILIITPEGDDK 360
QY 361 PGASGKVPFLFAKVIDLTKTGLGNRRGEVCKGPMKMGYVNDPEATREIIDEGWL 420
Db 361 PGASGKVPFLFAKVIDLTKTGLGNRRGEVCKGPMKMGYVNDPEATREIIDEGWL 420
QY 421 HTGDIGYDEEKHFFIVDRKLSLIKYGQVPPAELESVLLQHPISFDAGVAGVDPVAG 480
Db 421 HTGDIGYDEEKHFFIVDRKLSLIKYGQVPPAELESVLLQHPISFDAGVAGVDPVAG 480
QY 481 ELPAGVAVVLKKGSMTEKEVMDYVASQVSNKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
Db 481 ELPAGVAVVLKKGSMTEKEVMDYVASQVSNKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
QY 541 LKKPVAKM 548
Db 541 LKKPVAKM 548

RESULT 19

US-08-487-183A-12
; Sequence 12, Application US/08487183A
; Patent No. 6387675
; GENERAL INFORMATION:
; APPLICANT: WOOD, Keith V.
; APPLICANT: GRUBER, Monika G.
; TITLE OF INVENTION: MUTANT LUCIFERASES
; NUMBER OF SEQUENCES: 16
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Foley & Lardner
; STREET: P.O. Box 1497
; CITY: Madison
; STATE: WI
; COUNTRY: USA
; ZIP: 53701-1497
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/487,183A
; FILING DATE: 06-JUN-1995
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/467,773
; FILING DATE: 06-JUN-1995
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/177,081
; FILING DATE: 03-JAN-1994
; ATTORNEY/AGENT INFORMATION:
; NAME: Scanlon, William J.

; REGISTRATION NUMBER: 31,136
; REFERENCE/DOCKET NUMBER: 19017/166
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (608)258-5035
; TELEFAX: (608)258-4258
; INFORMATION FOR SEQ ID NO: 12:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 548 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; US-08-487-183A-12

Query Match 94.8%; Score 2675; DB 4; Length 548;
Best Local Similarity 93.1%; Pred. No. 1.2e-270;
Matches 510; Conservative 27; Mismatches 11; Indels 0; Gaps 0;

QY 1 MENMENENIVGPEPPIEBSAGTQLRKYMDRYAKLGAFTNALTGVDTYAYYLE 60
Db 1 MENMENENIVGPKFPPIEBSAGTQLRKYERYAKLGAFTNAVTVGVDSYAEYLE 60
QY 61 KSCCLGEALKNYGLVVDGRIALCSNCEBFFIPVLAGLFIGVGVAPTNEIYTLRELHSL 120
Db 61 KSCCLGKALQNYGLVVDGRIALCSNCEBFFIPVLAGLFIGVGVAPTNEIYTLRELHSL 120
QY 121 GISKPTIVFSSKGLDKVITVQKTVTAITVILDSKVDYRGVQSMDFIKNTPOGPKG 180
Db 121 GISKPTIVFSSKGLDKVITVQKTVTAITVILDSKVDYRGVQCLDFIKRNTPPGQA 180
QY 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENLVTRFSHARDPIYGNQVSPGTAIL 240
Db 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENLVTRFSHARDPIYGNQVSPGTAIL 240
QY 241 TVPFFHFGMFTTLGYLTCGRFRIWMLTKFDEBETFLKLDQYKCTSVILVPTLFAILNRS 300
Db 241 TVPFFHFGMFTTLGYLTCGRFRIWMLTKFDEBETFLKLDQYKCTSVILVPTLFAILNRS 300
QY 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAVARRFNLPGVQGYGLTETTSAILIITPEGDDK 360
Db 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAVARRFNLPGVQGYGLTETTSAILIITPEGDDK 360
QY 361 PGASGKVPFLFAKVIDLTKTGLGNRRGEVCKGPMKMGYVNDPEATREIIDEGWL 420
Db 361 PGASGKVPFLFAKVIDLTKTGLGNRRGEVCKGPMKMGYVNDPEATREIIDEGWL 420
QY 421 HTGDIGYDEEKHFFIVDRKLSLIKYGQVPPAELESVLLQHPISFDAGVAGVDPVAG 480
Db 421 HTGDIGYDEEKHFFIVDRKLSLIKYGQVPPAELESVLLQHPISFDAGVAGVDPVAG 480
QY 481 ELPAGVAVVLKKGSMTEKEVMDYVASQVSNKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
Db 481 ELPAGVAVVLKKGSMTEKEVMDYVASQVSNKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
QY 541 LKKPVAKM 548
Db 541 LKKPVAKM 548

RESULT 20

US-09-111-752-7
; Sequence 7, Application US/09111752
; Patent No. 6074859
; GENERAL INFORMATION:
; APPLICANT: HIROKAWA, KOZO
; APPLICANT: KAJIYAMA, NAOKI
; APPLICANT: MURAKAMI, SEIJI
; TITLE OF INVENTION: MUTANT-TYPE BIOLUMINESCENT PROTEIN, AND
; TITLE OF INVENTION: PROCESS FOR PRODUCING MUTANT-TYPE BIOLUMINESCENT PROTEIN
; NUMBER OF SEQUENCES: 14
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT,
; ADDRESSEE: P.C.
; STREET: 1755 S. JEFFERSON DAVIS HIGHWAY, SUITE 400

```

; CITY: ARLINGTON
; STATE: VA
; COUNTRY: USA
; ZIP: 22202
;
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patentin Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/111,752
; FILING DATE: 08-JUL-1998
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: OBLON, NORMAN F.
; REGISTRATION NUMBER: 24,618
; REFERENCE/DOCKET NUMBER: 7126-0009-0
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 703-413-3000
; TELEFAX: 703-413-2220
; INFORMATION FOR SEQ ID NO: 7:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 552 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; ORIGINAL SOURCE:
; ORGANISM: Luciola cruciata and Phontinus pyralis
; US-09-111-752-7

Query Match 91.7%; Score 2588; DB 3; Length 552;
Best Local Similarity 90.8%; Pred. No. 1.6e-261;
Matches 493; Conservative 39; Mismatches 18; Indels 0; Gaps 0;

QY 1 MNNNDENIVYGPPEPIEBSAGAQRLKYMRYAKLGAIAFTNALTGVDTYVAEYLE 60
DB 1 MNNNDENIVVGPKPPIEBSAGTQLRKMYERYAKLGAIAFTNAVTVGVDSYAEYLE 60
QY 61 KSCCLGKALQNYGLVVDGRIALCSECEBFFIPVLAGLFGVGVAPTNEIYTLRELVHSL 120
DB 61 KSCCLGKALQNYGLVVDGRIALCSECEBFFIPVLAGLFGVGVAPTNEIYTLRELVHSL 120
QY 121 GISKPTIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQSMDFIKKNTPGQFGK 180
DB 121 GISKPTIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQCLDTFKRNTPPGFOA 180
QY 181 SSFKEVVRKEQVALIMNSSGSTGLPKGVQLTHENLAVTRFSHARDPIYGNQVSPGTAIL 240
DB 181 SSFKEVVRKEQVALIMNSSGSTGLPKGVQLTHENLAVTRFSHARDPIYGNQVSPGTAIL 240
QY 241 TVVPFHGFGMFTTGLYTCGPRIVMLTKFDEBETFLKTLQDYKCSSVILVPTLFAILNRS 300
DB 241 TVVPFHGFGMFTTGLYTCGPRIVMLTKFDEBETFLKTLQDYKCSSVILVPTLFAILNRS 300
QY 301 ELIDKVDLSNLVIAAGGAPLSKEIGEAVARBNLPQVRCQGLTETTSAILIITPEGDDK 360
DB 301 ELIDKVDLSNLVIAAGGAPLSKEIGEAVARBNLPQVRCQGLTETTSAILIITPEGDDK 360
QY 361 PGAGKGVVPLFKAIVDLDTKTLGNRRGEVGVKGMKGVVONPEATREIIBEEGWL 420
DB 361 PGAGKGVVPLFKAIVDLDTKTLGNRRGEVGVKGMKGVVONPEATREIIBEEGWL 420
QY 421 HTGDIGYDEEKKFFIVDRILKSLIKYGVQVPAELESVLLQHPNIFDAGVAGVDDPAG 480
DB 421 HTGDIGYDEEKKFFIVDRILKSLIKYGVQVPAELESVLLQHPNIFDAGVAGVDDPAG 480
QY 481 ELPCAIVVLLKKGSMTEKEVMDVASQVSNARLGRGVFVDEVPKGLTGKIDGKAIREI 540
DB 481 ELPCAIVVLLKKGSMTEKEVMDVASQVSNARLGRGVFVDEVPKGLTGKIDGKAIREI 540
QY 541 LKK 543

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; CITY: ARLINGTON
; STATE: VA
; COUNTRY: USA
; ZIP: 22202
;
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patentin Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/111,752
; FILING DATE: 08-JUL-1998
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: OBLON, NORMAN F.
; REGISTRATION NUMBER: 24,618
; REFERENCE/DOCKET NUMBER: 7126-0009-0
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 703-413-3000
; TELEFAX: 703-413-2220
; INFORMATION FOR SEQ ID NO: 5:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 552 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; ORIGINAL SOURCE:
; ORGANISM: Luciola cruciata and Phontinus pyralis
; US-09-111-752-5

Query Match 84.8%; Score 2394; DB 3; Length 552;
Best Local Similarity 82.9%; Pred. No. 3.1e-241;
Matches 450; Conservative 54; Mismatches 39; Indels 0; Gaps 0;

QY 1 MNNNDENIVYGPPEPIEBSAGAQRLKYMRYAKLGAIAFTNALTGVDTYVAEYLE 60
DB 1 MNNNDENIVVGPKPPIEBSAGTQLRKMYERYAKLGAIAFTNAVTVGVDSYAEYLE 60
QY 61 KSCCLGKALQNYGLVVDGRIALCSECEBFFIPVLAGLFGVGVAPTNEIYTLRELVHSL 120
DB 61 KSCCLGKALQNYGLVVDGRIALCSECEBFFIPVLAGLFGVGVAPTNEIYTLRELVHSL 120
QY 121 GISKPTIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQSMDFIKKNTPGQFGK 180
DB 121 GISKPTIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQCLDTFKRNTPPGFOA 180
QY 181 SSFKEVVRKEQVALIMNSSGSTGLPKGVQLTHENLAVTRFSHARDPIYGNQVSPGTAIL 240
DB 181 SSFKEVVRKEQVALIMNSSGSTGLPKGVQLTHENLAVTRFSHARDPIYGNQVSPGTAIL 240
QY 241 TVVPFHGFGMFTTGLYTCGPRIVMLTKFDEBETFLKTLQDYKCSSVILVPTLFAILNRS 300
DB 241 TVVPFHGFGMFTTGLYTCGPRIVMLTKFDEBETFLKTLQDYKCSSVILVPTLFAILNRS 300

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QY 301 ELLDKYDLSNLVEIASGAPLSKEIGEAVARFNLPGVRQGYGLTETTSATIIITPEGDDK 360
DB 301 TLIDKYDLSNLHEIASGAPLSKEIGEAFAKFLPGIRQGYGLTETTSATIIITPEGDDK 360
QY 361 PGASGVVPLFKAKVIDLTKTLGNRGEVCVKGPMIMKGYVDNPEATREIIDEAGWL 420
DB 361 PGAVGVVPLFKAKVIDLTKTLGNRGEVCVKGPMIMKGYVDNPEATREIIDEAGWL 420
QY 421 HTGDIGYDEEKHFFIVDRKLSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDPIAG 480
DB 421 HSGDIAYWDEDEHFFIVDRKLSLIKYGYQVAPAELESILLQHPNIFDAGVAGVDPDPIAG 480
QY 481 ELPGAVVVLKKGKSKTEKEVMDYVASOVSNAKRLGGVRFVDEVPKGLTGKIDGKAIREI 540
DB 481 ELPAVAVVLEHGKTKTEKEIVDVASQVTTAKKLRGGVVFVDEVPKGLTGKIDGKAIREI 540
QY 541 LXX 543
DB 541 LIX 543

RESULT 22
US-09-380-061B-18
; Sequence 18, Application US/09380061B
; Patent No. 6265177
; GENERAL INFORMATION:
; APPLICANT: SQUIRRELL, DAVID JAMES
; WHITE, PETER JOHN
; LOWE, CHRISTOPHER ROBIN
; MURRAY, JAMES AUGUSTUS HENRY
; TITLE OF INVENTION: ENZYME ASSAY FOR MUTANT FIREFLY LUCIFERASE
; NUMBER OF SEQUENCES: 21
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: NIXON & VANDERHYE P.C.
; STREET: 1100 NORTH GLEBE ROAD
; CITY: ARLINGTON
; STATE: VIRGINIA
; COUNTRY: U.S.A.
; ZIP: 22201-4714
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.25 (EPO)
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/380,061B
; FILING DATE: 25-Aug-1999
; CLASSIFICATION: <unknown>
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: PCT/GB98/01026
; FILING DATE: 7-APR-1998
; APPLICATION NUMBER: GB 9707468.8
; FILING DATE: 11-APR-1997
; ATTORNEY/AGENT INFORMATION:
; NAME: SADOFF, B. J.
; REGISTRATION NUMBER: 36,663
; REFERENCE/DOCKET NUMBER: 124-725
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (703)816-4000
; TELEFAX: (703)816-4100
; INFORMATION FOR SEQ ID NO: 18:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 548 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; SEQUENCE DESCRIPTION: SEQ ID NO: 18:

US-09-380-061B-18

Query Match 82.7%; Score 2335.5; DB 3; Length 548;
Best Local Similarity 81.7%; Pred. No. 4e-235;
Matches 446; Conservative 47; Mismatches 52; Indels 1; Gaps 1;

QY 4 MENDENIVYGPBPPIEBSAGAQIRKYMNDYRVAKLGATFTNALTGVDYTYAEYLEKSC 63
DB 3 MEKEENVYVGLPFYPIEBSAGIQLHKYWHQYAKLGATFTNALTGVDYTYAEYLEKSC 62
QY 64 CLGEALKNVGLVVDGRITALCSECEFFIPVLAGLFTGVGVAFTNEIYTLRELNVHSLGIS 123
DB 63 RLAEAKNFKGKEEHALCSECEFFIPVLAGLYIGAVAFNEIYTLRELNVHSLGIA 122
QY 124 KPTIVFSKGLDKVITVQKVTITAKTIVILDSKVYRGYSQMDNFIKKNTPOGFKGSSF 183
DB 123 QPTIVFSRRLGPKVLEQVTKTCTIKKIVILDSKVNFPGHDCMETFIKTHIVELGFOPSSF 182
QY 184 KTVFV-NRKEQVALIMNMSGSTGLPKGVQLTHENLVTRFSHARDPIYGNQVSPGTALTIV 242
DB 183 VPIDNKRKORHALLMNSGSGTGLPKGVRLTHEGAVTRFSHARDPIYGNQVSPGTALTIV 242
QY 243 VPFEHGFEMFTTLGYLTCGFRIYMLTKFDBETFLKLDQDYKCSVILVPTLFAILNRSEL 302
DB 243 VPFEHGFEMFTTLGYPACGYRVVMLTKFDBELFLRTLQDYKCTSVILVPTLFAILNRSEL 302
QY 303 LDKYDLSNLVEIASGAPLSKEIGEAVARFNLPGVRQGYGLTETTSATIIITPEGDDKPG 362
DB 303 IDKFDLSNLTEIASGAPLAKEGAEVARFNLPGVRQGYGLTETTSATIIITPEGDDKPG 362
QY 363 ASGKVWPLFKAKVIDLTKTLGNRGEVCVKGPMIMKGYVDNPEATREIIDEAGWLHT 422
DB 363 ASGKVWPLFKAKVIDLTKTLGNRGEVCVKGPMIMKGYVDNPEATREIIDEAGWLHT 422
QY 423 GDIGYDEEKHFFIVDRKLSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDPIAGEL 482
DB 423 GDIGYDEDEHFFIVDRKLSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDPIAGEL 482
QY 483 PGAVVVLKKGKSKTEKEVMDYVASOVSNAKRLGGVRFVDEVPKGLTGKIDGKAIREILK 542
DB 483 PGAVVVMKKGKTKTEKEIVDVNSQVNVNHLRGGVRFVDEVPKGLTGKIDGKAIREILK 542
QY 543 KPQAKM 548
DB 543 KPQAKM 548

RESULT 23
US-08-487-183A-16
; Sequence 16, Application US/08487183A
; Patent No. 6387675
; GENERAL INFORMATION:
; APPLICANT: WOOD, Keith V.
; APPLICANT: GRUBER, Monika G.
; TITLE OF INVENTION: MUTANT LUCIFERASES
; NUMBER OF SEQUENCES: 16
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Foley & Lardner
; STREET: P.O. Box 1497
; CITY: Madison
; STATE: WI
; COUNTRY: USA
; ZIP: 53701-1497
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/487,183A
; FILING DATE: 06-JUN-1995
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/467,773
; FILING DATE: 06-JUN-1995
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/177,081
; FILING DATE: 03-JAN-1994
; ATTORNEY/AGENT INFORMATION:

NAME: Scanlon, William J.
 REGISTRATION NUMBER: 31,136
 REFERENCE/DOCKET NUMBER: 19017/166
 TELECOMMUNICATION INFORMATION:
 TELEPHONE: (608)258-5035
 TELEFAX: (608)258-4258
 INFORMATION FOR SEQ ID NO: 16:
 SEQUENCE CHARACTERISTICS:
 LENGTH: 548 amino acids
 TYPE: amino acid
 TOPOLOGY: linear
 MOLECULE TYPE: protein
 US-08-487-183A-16

Query Match 82.7%; Score 2335.5; DB 4; Length 548;
 Best Local Similarity 81.7%; Pred. No. 4e-235;
 Matches 446; Conservative 47; Mismatches 52; Indels 1; Gaps 1;
 QY 4 MENDENIVGPEPFPYIEEGSAGALRKYMDRYAKLGAIAFTNALTGVDTYAYEYLEKSC 63
 Db 3 MEKENVYVGLPFPYIEEGSAGIQLHKYHQYAKLGAIAFSAFTNALTGVDTYAYEYDITC 62
 QY 64 CLGEALKNYGLVVDGRIALCSECEFFIPVLAGLFGVGVAPTNEIYTLRELNVHSLGIS 123
 Db 63 RLAEAMKNGFMKPEEHIALCSECEFFIPVLAGLFGVAVAPTNEIYTLRELNVHSLGIA 122
 QY 124 KPTIVFSSKGLDKVITVQKTVTAIKTIVILDSKVYRGYQSDNFIKNTPOGFGKSSF 183
 Db 123 QPTIVFSSRGLPKVLEVQKTVTCIKKIVILDSKNVFGHDCMETFIKKGVELGQPSF 182
 QY 184 KTVEV-NRKEQVALIMNMSGSTGLPKGVQLTHENLVTRFSHARDPIYGNQVSPGTALTIV 242
 Db 183 VPIDVNRKQHVALLMNSGSGTGLPKGVRLTHEGAVTRFSHAKDPIYGNQVSPGTALTIV 242
 QY 243 VPFHGFGMTTGLYTCGFRIVMLTKFDEBETFKLQDYKCSSVILVPTLFAILNRSEL 302
 Db 243 VPFHGFGMTTGLYFACGYRVVMLTKFDEELFLRTLQDYKCTSVILVPTLFAILNRSEL 302
 QY 303 LDKYDLSNLVEIASGAPLSKEIGEAARRFNLPVGRQGYGLTETTSALITPEGDDKPG 362
 Db 303 IDKFDLSNLVEIASGAPLSKEIGEAARRFNLPVGRQGYGLTETTSALITPEGDDKPG 362
 QY 363 ASGWVPLFKAKVIDLDTKTLGNRGEVCVKGPMKGYVDNPRATREIIDEGWLHT 422
 Db 363 ASGWVPLFKAKVIDLDTKTLGNRGEICVKGPSMLGYSNPNPATRETIIDEGWLHT 422
 QY 423 GDIGYDEEKHFTVDRKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDPIAGEL 482
 Db 423 GDIGYDEDEHFTVDRKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDPIAGEL 482
 QY 483 PGAVVVLKKGKSMTEKEVMDYVASQVSNAKRLGGVRFVDEVPKGLTGKIDGKAIREILK 542
 Db 483 PGAVVVMKKGKSMTEKEIIVDYNVSNQVNNHKLGGVRFVDEVPKGLTGKIDAKVIREILK 542
 QY 543 KPVAKM 548
 Db 543 KPOAKM 548

RESULT 24
 US-09-396-154-29
 Sequence 29, Application US/09396154
 Patent No. 6602677
 GENERAL INFORMATION:
 APPLICANT: Hall, Mary P.
 APPLICANT: Wood, Keith V.
 TITLE OF INVENTION: Thermostable luciferases and methods of
 FILE REFERENCE: 341.012US1
 CURRENT APPLICATION NUMBER: US/09/396,154
 CURRENT FILING DATE: 1999-09-15
 EARLIER APPLICATION NUMBER: US 09/156,946
 EARLIER FILING DATE: 1998-09-18

EARLIER APPLICATION NUMBER: PCT/US98/19494
 EARLIER FILING DATE: 1998-09-18
 EARLIER APPLICATION NUMBER: US 60/059,379
 EARLIER FILING DATE: 1997-09-19
 NUMBER OF SEQ ID NOS: 93
 SOFTWARE: FastSeq for Windows Version 3.0
 SEQ ID NO 29
 LENGTH: 548
 TYPE: PRT
 ORGANISM: Luciola mingrelica
 US-09-396-154-29

Query Match 82.7%; Score 2335.5; DB 4; Length 548;
 Best Local Similarity 81.7%; Pred. No. 4e-235;
 Matches 446; Conservative 47; Mismatches 52; Indels 1; Gaps 1;
 QY 4 MENDENIVGPEPFPYIEEGSAGALRKYMDRYAKLGAIAFTNALTGVDTYAYEYLEKSC 63
 Db 3 MEKENVYVGLPFPYIEEGSAGIQLHKYHQYAKLGAIAFSAFTNALTGVDTYAYEYDITC 62
 QY 64 CLGEALKNYGLVVDGRIALCSECEFFIPVLAGLFGVGVAPTNEIYTLRELNVHSLGIS 123
 Db 63 RLAEAMKNGFMKPEEHIALCSECEFFIPVLAGLFGVAVAPTNEIYTLRELNVHSLGIA 122
 QY 124 KPTIVFSSKGLDKVITVQKTVTAIKTIVILDSKVYRGYQSDNFIKNTPOGFGKSSF 183
 Db 123 QPTIVFSSRGLPKVLEVQKTVTCIKKIVILDSKNVFGHDCMETFIKKGVELGQPSF 182
 QY 184 KTVEV-NRKEQVALIMNMSGSTGLPKGVQLTHENLVTRFSHARDPIYGNQVSPGTALTIV 242
 Db 183 VPIDVNRKQHVALLMNSGSGTGLPKGVRLTHEGAVTRFSHAKDPIYGNQVSPGTALTIV 242
 QY 243 VPFHGFGMTTGLYTCGFRIVMLTKFDEBETFKLQDYKCSSVILVPTLFAILNRSEL 302
 Db 243 VPFHGFGMTTGLYFACGYRVVMLTKFDEELFLRTLQDYKCTSVILVPTLFAILNRSEL 302
 QY 303 LDKYDLSNLVEIASGAPLSKEIGEAARRFNLPVGRQGYGLTETTSALITPEGDDKPG 362
 Db 303 IDKFDLSNLVEIASGAPLSKEIGEAARRFNLPVGRQGYGLTETTSALITPEGDDKPG 362
 QY 363 ASGWVPLFKAKVIDLDTKTLGNRGEVCVKGPMKGYVDNPRATREIIDEGWLHT 422
 Db 363 ASGWVPLFKAKVIDLDTKTLGNRGEICVKGPSMLGYSNPNPATRETIIDEGWLHT 422
 QY 423 GDIGYDEEKHFTVDRKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDPIAGEL 482
 Db 423 GDIGYDEDEHFTVDRKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDPIAGEL 482
 QY 483 PGAVVVLKKGKSMTEKEVMDYVASQVSNAKRLGGVRFVDEVPKGLTGKIDGKAIREILK 542
 Db 483 PGAVVVMKKGKSMTEKEIIVDYNVSNQVNNHKLGGVRFVDEVPKGLTGKIDAKVIREILK 542
 QY 543 KPVAKM 548
 Db 543 KPOAKM 548

RESULT 25
 US-09-380-061B-20
 Sequence 20, Application US/09380061B
 Patent No. 6265177
 GENERAL INFORMATION:
 APPLICANT: SQUIRRELL, DAVID JAMES
 WHITE, PETER JOHN
 LOWE, CHRISTOPHER ROBIN
 MURRAY, JAMES AUGUSTUS HENRY
 TITLE OF INVENTION: ENZYME ASSAY FOR MUTANT FIREFLY LUCIFERASE
 NUMBER OF SEQUENCES: 21
 CORRESPONDENCE ADDRESS:
 ADDRESS: NIXON & VANDERHYE P.C.
 STREET: 1100 NORTH GLEBE ROAD
 CITY: ARLINGTON
 STATE: VIRGINIA

COUNTRY: U.S.A.
ZIP: 22201-4714
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25 (BPO)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/380,061B
FILING DATE: 25-Aug-1999
CLASSIFICATION: <Unknown>
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/GB98/01026
FILING DATE: 7-APR-1998
APPLICATION NUMBER: GB 9707468.8
FILING DATE: 11-APR-1997
ATTORNEY/AGENT INFORMATION:
NAME: SAOFF, B. J.
REGISTRATION NUMBER: 36,663
REFERENCE/DOCKET NUMBER: 124-725
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703)816-4000
TELEFAX: (703)816-4100
INFORMATION FOR SEQ ID NO: 20:
SEQUENCE CHARACTERISTICS:
LENGTH: 547 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
SEQUENCE DESCRIPTION: SEQ ID NO: 20:
US-09-380-061B-20

Query Match 69.6%; Score 1965.5; DB 3; Length 547;
Best Local Similarity 69.0%; Pred. No. 2.1e-196;
Matches 372; Conservative 76; Mismatches 90; Indels 1; Gaps 1;

QY 4 MENDNIVGPEPFPTEEGSAGAQRYKMDRYAKL-GAIAFTNALTGYDYTYAEVLEKS 62
DB 1 MEDAKNIMHGPAFPYLEDGTAGEQLHKAMKRYAQPGTIAFDAEAVNIITYSEYFENA 60
QY 63 CCLGEALXNYGLVVDGRIALCSENCEEFFIPVLAGLFIGVGAPTNEIYTLRELVHSLGI 122
DB 61 CRLAETMKRYGLQLQHHIAVCSENSLQFFMFCVCGALFIGVGASTNDIYNERELYNLSI 120
QY 123 SKPTIVFSSKGLDKVITVQKTVAIKTIVILDSKYDYRGYQSMDFIKKNTPOGPKGSS 182
DB 121 SPTIVVCSKRALQKILGVQKKLPIIQKIVILDSREDYMGKQSMYSFIESHLDPAGFNEYD 180
QY 183 FKTVEVNRKEQVALIMNSGSGTGLPKGVQLTHENLVTRFSHARDPIYGNQVSPGTAILTV 242
DB 181 YIPDSFDRETATALIMNSGSGTGLPKGVQLTHQNVCVRFSHCEDPVFGNQIIPDTAILTV 240
QY 243 VPHHFGFMPTTLGYLTGCPRIVMLTKFDBETPLKLDYKCSSVILVPTLFAILNRSEL 302
DB 241 IPFHGFGFMPTTLGYLTGCPRIVLMYRFEELFRLSDYKIQSALLVPTLFFFAKSTL 300
QY 303 LDKYDLSNLVEIASGGAPLSKETGEAVARRFNLPVGRQVGLTETTSAIITPEGDDKPG 362
DB 301 VDKYDLSNLVEIASGGAPLAKEVGEAVAKRFLPGIRQGYGLTETTSAIITPEGDDKPG 360
QY 363 ASGVVPLFPAKVLDLTKTLPNGRGEVGVKPMKMGVYDNPATREIIDECEWLHT 422
DB 361 ACQKWPFFSAKIVDLDTGTLGVNQRGELCVKGPIMKGYVNNPEATSAIDKQGLHS 420
QY 423 GDIGYDEEKHFFIVDLKSLIKYKGVQVPEALESVLLQHPNIFDAGVAGVDPDIAGEL 482
DB 421 GDIAVDKQGHFFIVDLKSLIKYKGVQVPEALESILQHPFIFDAGVAGIPDDAGEL 480
QY 483 PGAVVILKKGSKMTEKEVMDYVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREIL 541
DB 481 PAAVVLEEGKTTVEQVMDYVAGQVTASKRLGGVKFVDEVPKGLTGKIDGKIREIL 539

1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that this is essential for ensuring transparency and accountability in the organization's operations. The text also mentions that proper record-keeping is crucial for identifying trends and making informed decisions.

2. The second part of the document outlines the various methods used to collect and analyze data. It describes how different types of information are gathered, such as through surveys, interviews, and observations. The text also explains how this data is then processed and analyzed to extract meaningful insights.

3. The third part of the document focuses on the application of the collected data. It discusses how the information is used to develop strategies, implement programs, and evaluate the effectiveness of various initiatives. The text also highlights the importance of regularly reviewing and updating the data to ensure it remains relevant and useful.

4. The fourth part of the document addresses the challenges associated with data collection and analysis. It identifies common obstacles, such as incomplete data, inconsistent reporting, and limited resources. The text also provides suggestions for overcoming these challenges and ensuring the quality and reliability of the data.

5. The fifth part of the document concludes by summarizing the key findings and recommendations. It reiterates the importance of maintaining accurate records and using data effectively to drive organizational success. The text also offers final thoughts on the future of data collection and analysis in the organization.

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OM protein - protein search, using sw model

Run on: July 22, 2004, 08:02:44 ; Search time 15.6667 Seconds

(without alignments)
1805.811 Million cell updates/sec

Title: US-09-581-241A-6

Perfect score: 2823

Sequence: 1 MENMENDENIVGPPFPFI.....TKIDGKAIRILKKPVAKM 548

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 389414 seqs, 51625971 residues

Total number of hits satisfying chosen parameters: 389414

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 100 summaries

Database :

1: /cgn2_6/prodata/2/1aa/5A_COMB.pep:**

2: /cgn2_6/prodata/2/1aa/5B_COMB.pep:**

3: /cgn2_6/prodata/2/1aa/6A_COMB.pep:**

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5: /cgn2_6/prodata/2/1aa/PCUTUS_COMB.pep:**

6: /cgn2_6/prodata/2/1aa/backfiles1.pep:**

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	2817	99.8	548	2	US-08-460-934-2
2	2817	99.8	548	2	US-08-782-118-2
3	2815	99.7	548	3	US-09-111-753-14
4	2814	99.7	548	1	US-07-903-047-8
5	2814	99.7	548	3	US-09-380-061B-16
6	2812	99.6	636	2	US-08-460-934-9
7	2812	99.6	636	2	US-08-782-118-9
8	2806	99.4	548	4	US-08-487-183A-14
9	2805	99.4	548	4	US-09-396-154-28
10	2799	99.1	568	2	US-08-460-934-6
11	2799	99.1	568	2	US-08-782-118-6
12	2793	98.9	548	3	US-09-602-628-10
13	2701	95.7	552	3	US-09-111-753-2
14	2684	95.1	548	1	US-07-675-211-2
15	2684	95.1	548	1	US-07-903-047-2
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17	2684	95.1	548	3	US-09-380-061B-14
18	2684	95.1	548	3	US-09-396-154-27
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20	2590	91.7	552	3	US-09-111-753-7
21	2394	84.8	548	3	US-09-111-753-5
22	2335.5	82.7	548	3	US-09-380-061B-18
23	2335.5	82.7	548	4	US-08-487-183A-16
24	2335.5	82.7	548	4	US-09-396-154-29
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32	1945.5	68.9	549	1	US-08-354-240A-2	Sequence 2, Appli
33	1945.5	68.9	550	3	US-08-867-352-23	Sequence 23, Appli
34	1945.5	68.9	550	3	US-09-380-061B-21	Sequence 21, Appli
35	1945.5	68.9	550	4	US-09-602-628-2	Sequence 2, Appli
36	1945.5	68.9	550	4	US-09-602-628-12	Sequence 12, Appli
37	1945.5	68.9	550	4	US-09-396-154-31	Sequence 31, Appli
38	1945.5	68.9	815	1	US-08-122-520C-9	Sequence 9, Appli
39	1945.5	68.9	1242	4	US-09-488-370A-2	Sequence 2, Appli
40	1942.5	68.8	550	3	US-08-718-425-5	Sequence 5, Appli
41	1940.5	68.7	550	3	US-08-875-277A-4	Sequence 4, Appli
42	1939.5	68.7	550	3	US-08-718-425-2	Sequence 2, Appli
43	1939.5	68.7	550	3	US-08-875-277A-2	Sequence 2, Appli
44	1937.5	68.6	550	3	US-09-380-061B-6	Sequence 6, Appli
45	1934.5	68.5	550	4	US-09-602-628-6	Sequence 6, Appli
46	1930.5	68.4	550	4	US-08-487-183A-10	Sequence 10, Appli
47	1905.5	67.5	561	2	US-08-474-169-8	Sequence 8, Appli
48	1892	67.0	548	4	US-09-396-154-30	Sequence 30, Appli
49	1831	64.9	552	1	US-08-231-729B-6	Sequence 6, Appli
50	1831	64.9	552	4	US-09-396-154-33	Sequence 33, Appli
51	1710.5	60.6	544	4	US-09-396-154-24	Sequence 24, Appli
52	1710.5	60.6	544	4	US-09-396-154-45	Sequence 45, Appli
53	1706.5	60.4	544	4	US-09-396-154-44	Sequence 44, Appli
54	1675.5	59.4	544	4	US-09-396-154-23	Sequence 23, Appli
55	1671.5	59.2	544	4	US-09-396-154-19	Sequence 19, Appli
56	1650.5	58.5	544	4	US-09-396-154-22	Sequence 22, Appli
57	1647.5	58.4	544	4	US-09-396-154-18	Sequence 18, Appli
58	1645.5	58.3	544	4	US-09-396-154-20	Sequence 20, Appli
59	1642.5	58.2	544	4	US-09-396-154-15	Sequence 15, Appli
60	1642.5	58.2	544	4	US-09-396-154-21	Sequence 21, Appli
61	1639.5	58.1	544	4	US-09-396-154-17	Sequence 17, Appli
62	1638.5	58.0	544	4	US-09-396-154-14	Sequence 14, Appli
63	1638.5	58.0	545	4	US-09-396-154-25	Sequence 25, Appli
64	1633.5	57.9	544	4	US-09-396-154-16	Sequence 16, Appli
65	1630.5	57.8	545	4	US-09-396-154-37	Sequence 37, Appli
66	1385	49.1	546	4	US-09-396-154-34	Sequence 34, Appli
67	1367	48.4	542	4	US-09-396-154-47	Sequence 47, Appli
68	1367	48.4	543	4	US-08-487-183A-4	Sequence 4, Appli
69	1367	48.4	543	4	US-08-487-183A-6	Sequence 6, Appli
70	1367	48.4	543	4	US-09-396-154-36	Sequence 36, Appli
71	1363	48.0	543	4	US-08-487-183A-8	Sequence 8, Appli
72	1356	48.0	542	4	US-09-396-154-26	Sequence 26, Appli
73	1356	48.0	543	4	US-08-487-183A-2	Sequence 2, Appli
74	1356	48.0	543	4	US-09-396-154-35	Sequence 35, Appli
75	732.5	25.9	535	4	US-09-969-046-2	Sequence 2, Appli
76	723.5	25.6	540	3	US-08-931-677-8	Sequence 8, Appli
77	721.5	25.6	544	3	US-08-615-192A-349	Sequence 349, App
78	713	25.3	570	4	US-08-969-046-4	Sequence 4, Appli
79	685	24.3	551	4	US-09-615-192A-348	Sequence 348, App
80	587	20.8	578	3	US-08-981-215-1	Sequence 1, Appli
81	549	19.4	566	4	US-09-252-991A-17972	Sequence 17972, A
82	545	19.3	584	4	US-09-489-039A-14137	Sequence 14137, A
83	537	19.0	568	4	US-09-328-352-5460	Sequence 5460, Ap
84	503	17.8	562	4	US-09-252-991A-17971	Sequence 17971, A
85	494.5	17.5	589	4	US-09-328-352-6901	Sequence 6901, App
86	476	16.9	180	4	US-09-615-192A-281	Sequence 281, App
87	472	16.7	582	4	US-09-543-681A-4556	Sequence 4556, Ap
88	431	15.3	601	4	US-09-252-991A-31225	Sequence 31225, A
89	426	15.1	543	4	US-09-134-001C-4423	Sequence 4423, Ap
90	416	14.7	548	4	US-09-543-681A-6631	Sequence 6631, Ap
91	405	14.3	661	4	US-09-252-991A-20392	Sequence 20392, A
92	387	13.7	542	4	US-09-489-039A-9564	Sequence 9564, Ap
93	373	13.2	523	4	US-09-134-000C-6177	Sequence 6177, Ap
94	352.5	12.5	583	4	US-09-252-991A-20324	Sequence 20324, A
95	341	12.1	649	4	US-09-418-963-2	Sequence 2, Appli
96	333	11.8	548	4	US-09-328-352-7909	Sequence 7909, Ap
97	325.5	11.5	488	4	US-08-311-731A-283	Sequence 283, App
98	325	11.5	119	4	US-09-615-192A-282	Sequence 282, App
99	316.5	11.2	555	4	US-09-252-991A-20604	Sequence 20604, A
100	311.5	11.0	457	4	US-08-311-731A-52	Sequence 52, Appli

ALIGNMENTS

RESULT 1

US-08-460-934-2
; Sequence 2, Application US/08460934
; Patent No. 5814465
; GENERAL INFORMATION:
; APPLICANT: TATSUMI, HIROKI
; APPLICANT: KIKUCHI, SATOSHI
; APPLICANT: KIKUCHI, MAMORU
; APPLICANT: KOYAMA, YASUJI
; TITLE OF INVENTION: BIOTINYLATED FIREFLY LUCIFERASE, A GENE
; TITLE OF INVENTION: FOR BIOTINYLATED FIREFLY LUCIFERASE, A RECOMBINANT DNA, A
; TITLE OF INVENTION: PROCESS FOR PRODUCING BIOTINATED AND A BIOLUMINESCENT
; TITLE OF INVENTION: ANALYSIS METHOD
; NUMBER OF SEQUENCES: 14
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: P.C.
; STREET: 1755 S. JEFFERSON DAVIS HIGHWAY, FOURTH FLOOR
; CITY: ARLINGTON
; STATE: VA
; COUNTRY: USA
; ZIP: 22202
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patentin Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/460,934
; FILING DATE: 05-JUN-1995
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: JP 193798/1994
; FILING DATE: 27-JUL-1994
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: JP 54625/1995
; FILING DATE: 14-MAR-1995
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: JP 98857/1995
; FILING DATE: 24-APR-1995
; ATTORNEY/AGENT INFORMATION:
; NAME: OBLON, NORMAN F.
; REGISTRATION NUMBER: 24,618
; REFERENCE/DOCKET NUMBER: 7126-001-0
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 703-413-3000
; TELEFAX: 703-413-2220
; INFORMATION FOR SEQ ID NO: 2:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 548 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: unknown
; MOLECULE TYPE: peptide
; ORIGINAL SOURCE:
; ORGANISM: *Luciola lateralis*
US-08-460-934-2
Query Match 99.8%; Score 2817; DB 2; Length 548;
Best Local Similarity 99.6%; Pred. No. 4.5e-289;
Matches 546; Conservative 2; Mismatches 0; Indels 0; Gaps 0;
Qy 1 MENWENDENIVGPEPPYPIEBSAGAKYKMDRYAKLGAFTNALTGVDTYVAEYLE 60
Db 1 MENWENDENIVGPEPPYPIEBSAGAKYKMDRYAKLGAFTNALTGVDTYVAEYLE 60
Qy 61 KSCCLGALKNYGLVVDGRIALCSENCEEFFIPVLAGLFIGVGVAPTNEIYTLRELHVHSL 120

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121 GISKPTIVFSSKKGLDKVITVQKTTAIIKTIIVLDSKVDYRGYSMDNFIKKNTPOGFGK 180
121 GISKPTIVFSSKKGLDKVITVQKTTAIIKTIIVLDSKVDYRGYSMDNFIKKNTPOGFGK 180
181 SSFKTVEVNRKEQVALIMNSSSGTGLPKGVQLTHENIVTRFSHARDPIYGNQVSPGTAIL 240
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241 TVPFFHGFNGFTTLGYLTCGFRIVMLTKDEBETFLKTDYKCSSVILYPTLFAILNRS 300
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361 PGASGVVPLPKAKVIDLDTKTLGPNRGEVCKVGMKMGYYVDNPEATREIIDEGWL 420
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421 HTGDIGYDDEBKHFIVDRLLKSLIKYGYVPPPAELESVLLQHPNIFDAGVAGVPDPIAG 480
421 HTGDIGYDDEBKHFIVDRLLKSLIKYGYVPPPAELESVLLQHPNIFDAGVAGVPDPIAG 480
481 ELPGAVVVLKKGKSMTEKEVNDYVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
481 ELPGAVVVLKKGKSMTEKEVNDYVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
541 LKQVAKM 548
541 LKQVAKM 548

RESULT 2
US-08-782-118-2
; Sequence 2, Application US/08782118
; Patent No. 5843746
; GENERAL INFORMATION:
; APPLICANT: TATSUMI, HIROKI
; APPLICANT: FUKUDA, SATOSHI
; APPLICANT: KIKUCHI, MAMORU
; APPLICANT: KOYAMA, YASUJI
; TITLE OF INVENTION: BIOTINYLATED FIREFLY LUCIFERASE, A GENE
; TITLE OF INVENTION: FOR BIOTINYLATED FIREFLY LUCIFERASE, A RECOMBINANT DNA, A
; TITLE OF INVENTION: PROCESS FOR PRODUCING BIOTINATED AND A BIOLUMINESCENT
; NUMBER OF SEQUENCES: 14
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT,
; STREET: 1755 S. JEFFERSON DAVIS HIGHWAY, FOURTH FLOOR
; CITY: ARLINGTON
; STATE: VA
; COUNTRY: USA
; ZIP: 22202
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patentin Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/782,118
; FILING DATE: 13-JAN-1997
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/460,934
; FILING DATE: 05-JUN-1995
; APPLICATION NUMBER: JP 193798/1994
; FILING DATE: 27-JUL-1994
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: JP 54625/1995

```

; APPLICANT: KAJIYAMA, NAOKI
; APPLICANT: MURAKAMI, SEIJI
; TITLE OF INVENTION: MUTANT-TYPE BIOLUMINESCENT PROTEIN, AND
; TITLE OF INVENTION: PROCESS FOR PRODUCING MUTANT-TYPE LUMINESCENT PROTEIN
; NUMBER OF SEQUENCES: 14
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT,
; ADDRESSEE: P.C. JEFFERSON DAVIS HIGHWAY, SUITE 400
; STREET: 1755 S. JEFFERSON DAVIS HIGHWAY, SUITE 400
; CITY: ARLINGTON
; STATE: VA
; COUNTRY: USA
; ZIP: 22202
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent in Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/111,752
; FILING DATE: 08-JUL-1998
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: OBLON, NORMAN F.
; REGISTRATION NUMBER: 24,618
; REFERENCE/DOCKET NUMBER: 7126-0009-0
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 703-413-3000
; TELEFAX: 703-413-2220
; INFORMATION FOR SEQ ID NO: 14:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 548 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; US-09-111-752-14

Query Match          99.7%; Score 2815; DB 3; Length 548;
Best Local Similarity 99.6%; Pred. No. 7.4e-289;
Matches 546; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Qy 1 MENWENDENIVGPEPFYPIEESAGAQRLKYMRYAKLGAIAFTNALTGVDVYAEYLE 60
Db 1 MENWENDENIVGPEPFYPIEESAGAQRLKYMRYAKLGAIAFTNALTGVDVYAEYLE 60
Qy 61 KSCCLGEALKNVLGVVDGRIALCSNCEEEFFIPVLAGLFIQGVGAPNEIYTLRELVHSL 120
Db 61 KSCCLGEALKNVLGVVDGRIALCSNCEEEFFIPVLAGLFIQGVGAPNEIYTLRELVHSL 120
Qy 121 GISKPTIVFSSKKGLDKVITVQKTVTAIKTIVILDSKVDYRGVQSDMNFYKKNTPOGFKG 180
Db 121 GISKPTIVFSSKKGLDKVITVQKTVTAIKTIVILDSKVDYRGVQSDMNFYKKNTPOGFKG 180
Qy 181 SSFKTVEVNKEQVALIMNSSGSTGLPKGVQLTHENIVTFSHARDPIYGNQVSPGTAIL 240
Db 181 SSFKTVEVNKEQVALIMNSSGSTGLPKGVQLTHENIVTFSHARDPIYGNQVSPGTAIL 240
Qy 241 TVVPFHFGFCMFTTGLYLTGCFPIVMLTKFDEETFLTKLDYKCSSVILVPTLFAILNRS 300
Db 241 TVVPFHFGFCMFTTGLYLTGCFPIVMLTKFDEETFLTKLDYKCSSVILVPTLFAILNRS 300
Qy 301 ELIDKYDLSNLVRIASGGAPLSKEIGEAVARRNLPQVRQGYGLTETTSAILITPEGDDK 360
Db 301 ELIDKYDLSNLVRIASGGAPLSKEIGEAVARRNLPQVRQGYGLTETTSAILITPEGDDK 360
Qy 361 PGASGKVVPLFKAKVIDLDTFKTLTGNRRRGEVCVKGPMLMKGVVDNPEATREIIDEGWL 420
Db 361 PGASGKVVPLFKAKVIDLDTFKTLTGNRRRGEVCVKGPMLMKGVVDNPEATREIIDEGWL 420
Qy 421 HTGDIGYDDEKHFFIVDRILKSLIKYKGYPVPALESVLLQHPNIFDAGVAGVPDPIAG 480
Db 421 HTGDIGYDDEKHFFIVDRILKSLIKYKGYPVPALESVLLQHPNIFDAGVAGVPDPIAG 480

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RESULT 3	
US-09-111-752-14	
; Sequence 14. Application US/09111752	
; Patent No. 6074859	
; GENERAL INFORMATION:	
APPLICANT: HIROKAWA, KOZO	
361 PGASGKWFELFKAKYVIDLDTKTLGPNRGEVCVKGMLKGYVDNPEATREIIDEEGWL	420
361 PGASGKWFELFKAKYVIDLDTKTLGPNRGEVCVKGMLKGYVDNPEATREIIDEEGWL	420
421 HTGDIQYDEEKHFHFDRLKSLIKYKGYQVPPAELESVLLQHNFI	480
421 HTGDIQYDEEKHFHFDRLKSLIKYKGYQVPPAELESVLLQHNFI	480
421 HTGDIQYDEEKHFHFDRLKSLIKYKGYQVPPAELESVLLQHNFI	480

US-09-380-061B-16

Query Match 99.7%; Score 2814; DB 3; Length 548;
Best Local Similarity 99.6%; Pred. No. 9.4e-289;
Matches 546; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

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QY 1 MENNDENIVTGPFPPIEESGAGAKRKYAKLGAIAFTNALTGVDTYAEYLE 60
DB 1 MENNDENIVTGPFPPIEESGAGAKRKYAKLGAIAFTNALTGVDTYAEYLE 60
QY 61 KSCCLGEALKNYGLVVDGRIALCSECEFFIPVLAGLFIGVGVAPTNEIYTLRELHSL 120
DB 61 KSCCLGEALKNYGLVVDGRIALCSECEFFIPVLAGLFIGVGVAPTNEIYTLRELHSL 120
QY 121 GISKPTIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQSMDFIKKNTPOGPKG 180
DB 121 GISKPTIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQSMDFIKKNTPOGPKG 180
QY 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENIVTRFSHARDPIYGNQVSPGTAIL 240
DB 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENIVTRFSHARDPIYGNQVSPGTAIL 240
QY 241 TVPFFHFGMFTTGLYLTGCFRIVMLTKFDEETFLKLDYKCSSVILVPTLFAILNRS 300
DB 241 TVPFFHFGMFTTGLYLTGCFRIVMLTKFDEETFLKLDYKCSSVILVPTLFAILNRS 300
QY 301 ELLDKYDLSNLVEIASGAPLSKEIGAVARRFNLPGVROGYGLTETTSALITPEGDDK 360
DB 301 ELLDKYDLSNLVEIASGAPLSKEIGAVARRFNLPGVROGYGLTETTSALITPEGDDK 360
QY 361 PGASGKVVPLFKAKVIDLDTKTLPNRRGEVCVKGPMVMKGYVDNPEATREIIDEEGWL 420
DB 361 PGASGKVVPLFKAKVIDLDTKTLPNRRGEVCVKGPMVMKGYVDNPEATREIIDEEGWL 420
QY 421 HTGDIYDDEKHFFIVDRKLSLIKYGQVPPAELESVLLQHPNIFDAGVAGVDPDIAG 480
DB 421 HTGDIYDDEKHFFIVDRKLSLIKYGQVPPAELESVLLQHPNIFDAGVAGVDPDIAG 480
QY 481 ELPGAVVVLKKGSMTEKEVMDYVASQVSNARKLRGGVRFVDEVPKGLTGKIDGKAIREI 540
DB 481 ELPGAVVVLKKGSMTEKEVMDYVASQVSNARKLRGGVRFVDEVPKGLTGKIDGKAIREI 540
QY 541 LKPKPAK 548
DB 541 LKPKPAK 548
```

RESULT 6

US-08-460-934-9
Sequence 9, Application US/08460934
Patent No. 5814465
GENERAL INFORMATION:
APPLICANT: TATSUMI, HIROKI
APPLICANT: FUKUDA, SATOSHI
APPLICANT: KIKUCHI, MAMORU
APPLICANT: KOYAMA, YASUJI
TITLE OF INVENTION: BIOTINYLATED FIREFLY LUCIFERASE, A GENE
TITLE OF INVENTION: FOR BIOTINYLATED FIREFLY LUCIFERASE, A RECOMBINANT DNA, A
TITLE OF INVENTION: PROCESS FOR PRODUCING BIOTINATED AND A BIOLUMINESCENT
TITLE OF INVENTION: ANALYSIS METHOD
NUMBER OF SEQUENCES: 14
CORRESPONDENCE ADDRESS:
ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT,
ADDRESSEE: P.C.
STREET: 1755 S. JEFFERSON DAVIS HIGHWAY, FOURTH FLOOR
CITY: ARLINGTON
STATE: VA
COUNTRY: USA
ZIP: 22202
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: PatentIn Release #1.0, Version #1.30

CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/460,934
FILING DATE: 05-JUN-1995
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: JP 193798/1994
FILING DATE: 27-JUL-1994
PRIOR APPLICATION DATA:
APPLICATION NUMBER: JP 54625/1995
FILING DATE: 14-MAR-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: JP 98857/1995
FILING DATE: 24-APR-1995
ATTORNEY/AGENT INFORMATION:
NAME: OBLON, NORMAN F.
REGISTRATION NUMBER: 24,618
REFERENCE/DOCKET NUMBER: 7126-001-0
TELECOMMUNICATION INFORMATION:
TELEPHONE: 703-413-3000
TELEFAX: 703-413-2220
INFORMATION FOR SEQ ID NO: 9:
SEQUENCE CHARACTERISTICS:
LENGTH: 636 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
US-08-460-934-9

Query Match 99.6%; Score 2812; DB 2; Length 636;

Best Local Similarity 99.6%; Pred. No. 2e-288;

Matches 545; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

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QY 1 MENNDENIVTGPFPPIEESGAGAKRKYAKLGAIAFTNALTGVDTYAEYLE 60
DB 1 MENNDENIVTGPFPPIEESGAGAKRKYAKLGAIAFTNALTGVDTYAEYLE 60
QY 61 KSCCLGEALKNYGLVVDGRIALCSECEFFIPVLAGLFIGVGVAPTNEIYTLRELHSL 120
DB 61 KSCCLGEALKNYGLVVDGRIALCSECEFFIPVLAGLFIGVGVAPTNEIYTLRELHSL 120
QY 121 GISKPTIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQSMDFIKKNTPOGPKG 180
DB 121 GISKPTIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQSMDFIKKNTPOGPKG 180
QY 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENIVTRFSHARDPIYGNQVSPGTAIL 240
DB 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENIVTRFSHARDPIYGNQVSPGTAIL 240
QY 241 TVPFFHFGMFTTGLYLTGCFRIVMLTKFDEETFLKLDYKCSSVILVPTLFAILNRS 300
DB 241 TVPFFHFGMFTTGLYLTGCFRIVMLTKFDEETFLKLDYKCSSVILVPTLFAILNRS 300
QY 301 ELLDKYDLSNLVEIASGAPLSKEIGAVARRFNLPGVROGYGLTETTSALITPEGDDK 360
DB 301 ELLDKYDLSNLVEIASGAPLSKEIGAVARRFNLPGVROGYGLTETTSALITPEGDDK 360
QY 361 PGASGKVVPLFKAKVIDLDTKTLPNRRGEVCVKGPMVMKGYVDNPEATREIIDEEGWL 420
DB 361 PGASGKVVPLFKAKVIDLDTKTLPNRRGEVCVKGPMVMKGYVDNPEATREIIDEEGWL 420
QY 421 HTGDIYDDEKHFFIVDRKLSLIKYGQVPPAELESVLLQHPNIFDAGVAGVDPDIAG 480
DB 421 HTGDIYDDEKHFFIVDRKLSLIKYGQVPPAELESVLLQHPNIFDAGVAGVDPDIAG 480
QY 481 ELPGAVVVLKKGSMTEKEVMDYVASQVSNARKLRGGVRFVDEVPKGLTGKIDGKAIREI 540
DB 481 ELPGAVVVLKKGSMTEKEVMDYVASQVSNARKLRGGVRFVDEVPKGLTGKIDGKAIREI 540
QY 541 LKPKPAK 547
DB 541 LKPKPAK 547
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RESULT 7
 US-08-782-118-9
 ; Sequence 9, Application US/08782118
 ; Patent No. 5843746
 ; GENERAL INFORMATION:
 ; APPLICANT: TATSUMI, HIROKI
 ; APPLICANT: FUKUDA, SATOSHI
 ; APPLICANT: KIKUCHI, MAMORU
 ; APPLICANT: KOVAMA, YASUJI
 ; TITLE OF INVENTION: BIOTINYLATED FIREFLY LUCIFERASE, A GENE
 ; TITLE OF INVENTION: FOR BIOTINYLATED FIREFLY LUCIFERASE, A RECOMBINANT DNA, A
 ; TITLE OF INVENTION: PROCESS FOR PRODUCING BIOTINATED AND A BIOLUMINESCENT
 ; TITLE OF INVENTION: ANALYSIS METHOD
 ; NUMBER OF SEQUENCES: 14
 ; CORRESPONDENCE ADDRESS:
 ; ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT,
 ; STREET: 1755 S. JEFFERSON DAVIS HIGHWAY, FOURTH FLOOR
 ; CITY: ARLINGTON
 ; STATE: VA
 ; COUNTRY: USA
 ; ZIP: 22202
 ; COMPUTER READABLE FORM:
 ; MEDIUM TYPE: Floppy disk
 ; COMPUTER: IBM PC compatible
 ; OPERATING SYSTEM: PC-DOS/MS-DOS
 ; SOFTWARE: Patent In Release #1.0, Version #1.30
 ; CURRENT APPLICATION DATA:
 ; APPLICATION NUMBER: US/08/782,118
 ; FILING DATE: 13-JAN-1997
 ; CLASSIFICATION: 435
 ; PRIOR APPLICATION DATA:
 ; APPLICATION NUMBER: US 08/460,934
 ; FILING DATE: 05-JUN-1995
 ; APPLICATION NUMBER: JP 193798/1994
 ; FILING DATE: 27-JUL-1994
 ; PRIOR APPLICATION DATA: JP 54625/1995
 ; FILING DATE: 14-MAR-1995
 ; APPLICATION DATA:
 ; APPLICATION NUMBER: JP 98857/1995
 ; FILING DATE: 24-APR-1995
 ; ATTORNEY/AGENT INFORMATION:
 ; NAME: OBLON, NORMAN F.
 ; REGISTRATION NUMBER: 24,618
 ; REFERENCE/DOCKET NUMBER: 7126-001-0
 ; TELECOMMUNICATION INFORMATION:
 ; TELEPHONE: 703-413-3000
 ; TELEFAX: 703-413-2220
 ; INFORMATION FOR SEQ ID NO: 9:
 ; SEQUENCE CHARACTERISTICS:
 ; LENGTH: 636 amino acids
 ; TYPE: amino acid
 ; TOPOLOGY: linear
 ; MOLECULE TYPE: protein
 ; US-08-782-118-9

Query Match 99.6%; Score 2812; DB 2; Length 636;
 Best Local Similarity 99.6%; Pred. No. 2e-288;
 Matches 545; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

QY 1 MENMENDENIVGPFFPIEESAGALRKYMRYAKLGAIAFTNALTGVDTYVAEYLE 60
 DB 1 MENMENDENIVGPFFPIEESAGALRKYMRYAKLGAIAFTNALTGVDTYVAEYLE 60
 QY 61 KSCCLGEALKNYGLVVDGRIALCSECEFFIPVLGLFVIGVAPTNEIYTLRELHSL 120
 DB 61 KSCCLGEALKNYGLVVDGRIALCSECEFFIPVLGLFVIGVAPTNEIYTLRELHSL 120
 QY 121 GISKPTIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQSMDFIKKNTPGQFGK 180
 DB 121 GISKPTIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQSMDFIKKNTPGQFGK 180

QY 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENIVTRFSHARDPIYGNQVSPGTAIL 240
 DB 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENIVTRFSHARDPIYGNQVSPGTAIL 240
 QY 241 TVVPFHGFGMFTTGLYLTGCGFRIWMLTKFDEETFLKTLQDYKCSSVILVPTLFAILNRS 300
 DB 241 TVVPFHGFGMFTTGLYLTGCGFRIWMLTKFDEETFLKTLQDYKCSSVILVPTLFAILNRS 300
 QY 301 ELLDKYDLNLVEITASGAPLSKEIGEAARRFNLPGVROGYGLTETTSAILITPEGDDK 360
 DB 301 ELLDKYDLNLVEITASGAPLSKEIGEAARRFNLPGVROGYGLTETTSAILITPEGDDK 360
 QY 361 PGASGVVPLFKAKVIDLDTKTLGPNRGEVCVKGMKMGVYVNDPEATREIIDEGWL 420
 DB 361 PGASGVVPLFKAKVIDLDTKTLGPNRGEVCVKGMKMGVYVNDPEATREIIDEGWL 420
 QY 421 HTGDIGYDEEKHFFIVDRKLSLIKYGVOVPPAELESVLLQHPNIPDAGVAGVDPFIAG 480
 DB 421 HTGDIGYDEEKHFFIVDRKLSLIKYGVOVPPAELESVLLQHPNIPDAGVAGVDPFIAG 480
 QY 481 ELPGAIVVLEKGSMTKEVMDYVASQVSNAKLGGVRFVDEVPKGLTGKIDGKAIREI 540
 DB 481 ELPGAIVVLEKGSMTKEVMDYVASQVSNAKLGGVRFVDEVPKGLTGKIDGKAIREI 540
 QY 541 LKXPVAK 547
 DB 541 LKXPVAK 547

RESULT 8
 US-08-487-183A-14
 ; Sequence 14, Application US/08487183A
 ; Patent No. 6387875
 ; GENERAL INFORMATION:
 ; APPLICANT: WOOD, Keith V.
 ; APPLICANT: GRUBER, Monika G.
 ; TITLE OF INVENTION: MUTANT LUCIFERASES
 ; NUMBER OF SEQUENCES: 16
 ; CORRESPONDENCE ADDRESS:
 ; ADDRESSEE: Foley & Lardner
 ; STREET: P.O. Box 1497
 ; CITY: Madison
 ; STATE: WI
 ; COUNTRY: USA
 ; ZIP: 53701-1497
 ; COMPUTER READABLE FORM:
 ; MEDIUM TYPE: Floppy disk
 ; COMPUTER: IBM PC compatible
 ; OPERATING SYSTEM: PC-DOS/MS-DOS
 ; SOFTWARE: Patent In Release #1.0, Version #1.30
 ; CURRENT APPLICATION DATA:
 ; APPLICATION NUMBER: US/08/487,183A
 ; FILING DATE: 06-JUN-1995
 ; CLASSIFICATION: 435
 ; PRIOR APPLICATION DATA:
 ; APPLICATION NUMBER: US 08/467,773
 ; FILING DATE: 06-JUN-1995
 ; PRIOR APPLICATION DATA:
 ; APPLICATION NUMBER: US 08/177,081
 ; FILING DATE: 03-JAN-1994
 ; ATTORNEY/AGENT INFORMATION:
 ; NAME: Scallion, William J.
 ; REGISTRATION NUMBER: 31,136
 ; REFERENCE/DOCKET NUMBER: 19017/166
 ; TELECOMMUNICATION INFORMATION:
 ; TELEPHONE: (608)258-5035
 ; TELEFAX: (608)258-4258
 ; INFORMATION FOR SEQ ID NO: 14:
 ; SEQUENCE CHARACTERISTICS:
 ; LENGTH: 548 amino acids
 ; TYPE: amino acid
 ; TOPOLOGY: linear

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; MOLECULE TYPE: protein
; US-08-487-183A-14

Query Match      99.4%; Score 2806; DB 4; Length 548;
Best Local Similarity 99.5%; Pred. No. 6.6e-288;
Matches 545; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 1 MENMENDENIVGPPFPYPIEBSGAGAKLRKYMDRYAKLGAIAFTNALTGVDTYVAEYLE 60
Db 1 MENMENDENIVGPPFPYPIEBSGAGAKLRKYMDRYAKLGAIAFTNALTGVDTYVAEYLE 60
QY 61 KSCCLGEALKNYGLVVDGRIALCSNCEBFFIPVLAGLFIGVGVAPTNETITLRELHVS 120
Db 61 KSCCLGEALKNYGLVVDGRIALCSNCEBFFIPVLAGLFIGVGVAPTNETITLRELHVS 120
QY 121 GISKPTIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQSMDFIKKNTPOGFKG 180
Db 121 GISKPTIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQSMDFIKKNTPOGFKG 180
QY 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENIVTRFSHARDPIYGNQVSPGTAIL 240
Db 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENIVTRFSHARDPIYGNQVSPGTAIL 240
QY 241 TVPFFHGHGFMFTTGLYLCGFRIVMLTKFDEETFLKLDQYKCSSVILVPTLFAILNRS 300
Db 241 TVPFFHGHGFMFTTGLYLCGFRIVMLTKFDEETFLKLDQYKCSSVILVPTLFAILNRS 300
QY 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAVARRNLPGRQGYGLTETTSAILITPEGDDK 360
Db 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAVARRNLPGRQGYGLTETTSAILITPEGDDK 360
QY 361 PGASGKVVPLFKAKVIDLTKTLGNRRGEVCVKGPMLMKGYVDNPEATREIIDEGWL 420
Db 361 PGASGKVVPLFKAKVIDLTKTLGNRRGEVCVKGPMLMKGYVDNPEATREIIDEGWL 420
QY 421 HTGDIGYDEEKHFVIVDRLSLIIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDIAG 480
Db 421 HTGDIGYDEEKHFVIVDRLSLIIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDIAG 480
QY 481 ELPGAVVVLKKGKSMTEKEMDYVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
Db 481 ELPGAVVVLKKGKSMTEKEMDYVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
QY 541 LKKPVAKM 548
Db 541 LKKPVAKM 548

RESULT 10
US-08-460-934-6
; Sequence 6, Application US/08460934
; Patent No. 5814465
; GENERAL INFORMATION:
; APPLICANT: TATSUMI, HIROKI
; APPLICANT: FUKUDA, SATOSHI
; APPLICANT: KIKUCHI, MAMORU
; APPLICANT: KOYAMA, YASUJI
; TITLE OF INVENTION: BIOTINYLATED FIREFLY LUCIFERASE, A GENE
; TITLE OF INVENTION: FOR BIOTINYLATED FIREFLY LUCIFERASE, A RECOMBINANT DNA, A
; TITLE OF INVENTION: PROCESS FOR PRODUCING BIOTINATED AND A BIOLUMINESCENT
; TITLE OF INVENTION: ANALYSIS METHOD
; NUMBER OF SEQUENCES: 14
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: OSLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT,
; ADDRESSEE: P.C.
; STREET: 1755 S. JEFFERSON DAVIS HIGHWAY, FOURTH FLOOR
; CITY: ARLINGTON
; STATE: VA
; COUNTRY: USA
; ZIP: 22202
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patentin Release #1.0, Version #1.30

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QY 183 FKTVEVRKEQVALIMNSGSGTGLPKGVQLTHENVTRFSHARDDPIYGNVSPGTAITLV 242
DB 203 FKTVEVRKEQVALIMNSGSGTGLPKGVQLTHENVTRFSHARDDPIYGNVSPGTAITLV 262
QY 243 VPFHGFNGFTTGLGYLTTCGFRIVMLTKDEETFLKTLQDYKSSVILVPTLFAILNRSEL 302
DB 263 VPFHGFNGFTTGLGYLTTCGFRIVMLTKDEETFLKTLQDYKSSVILVPTLFAILNRSEL 322
QY 303 LKDYLSNLVEIASGAPLSKEIGAVARRFNLPGVRQGYGLTETTSIIITPEGDDKPG 362
DB 323 LKDYLSNLVEIASGAPLSKEIGAVARRFNLPGVRQGYGLTETTSIIITPEGDDKPG 382
QY 363 ASGKVVPFLPKAVIDLDTKKTILGNRGEVCKVGPMLMKGYVDNPEATREIIDEEGWLHT 422
DB 383 ASGKVVPFLPKAVIDLDTKKTILGNRGEVCKVGPMLMKGYVDNPEATREIIDEEGWLHT 442
QY 423 GDIGYDEEKHFFIVDRLSKLIKYGYQVPPAELESVLLQHPNIFDAGVAGVPDPIAGEL 482
DB 443 GDIGYDEEKHFFIVDRLSKLIKYGYQVPPAELESVLLQHPNIFDAGVAGVPDPIAGEL 502
QY 483 PGAVVVLKKGKSMTEKEVMDYVASQVSNAKRLRGVRFVDEVPKGLTKIDGKAIREILK 542
DB 503 PGAVVVLKKGKSMTEKEVMDYVASQVSNAKRLRGVRFVDEVPKGLTKIDGKAIREILK 562
QY 543 KPVAKM 548
DB 563 KPVAKM 568
RESULT 12
US-09-602-628-10
; Sequence 10, Application US/09602628
; Patent No. 6495355
; GENERAL INFORMATION:
; APPLICANT: Eames, Brian
; APPLICANT: Contag, Christopher
; TITLE OF INVENTION: Red-Shifted Luciferase
; FILE REFERENCE: SUN-127
; CURRENT APPLICATION NUMBER: US/09/602,628
; PRIOR FILING DATE: 2000-06-21
; PRIOR APPLICATION NUMBER: 60/140,598
; PRIOR FILING DATE: 1999-06-22
; NUMBER OF SEQ ID NOS: 12
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 10
; TYPE: PRT
; ORGANISM: Luciola lateralis
US-09-602-628-10
Query Match 98.9%; Score 2793; DB 4; Length 548;
Best Local Similarity 98.7%; Pred. No. 1.6e-286;
Matches 541; Conservative 4; Mismatches 3; Indels 0; Gaps 0;
QY 1 MENMENDENIVYGPPEFYPIEGSAGALRKYMRYAKLGATFNAITGVDYTYAEYLE 60
DB 1 MENMNDENIVYGPPEFYPIEGSAGALRKYMRYAKLGATFNAITGVDYTYAEYLE 60
QY 61 KSCCLGEALKNYGLVVDGRIALCSECEFFIPVLAGLFIGVGAFTNEIYTLRELHVS 120
DB 61 KSCCLGEALKNYGLVVDGRIALCSECEFFIPVLAGLFIGVGAFTNEIYTLRELHVS 120
QY 121 GISKPTIVSSKGLDKVITVOKTVTAITVILDSKVDYRGYQSMDFIKXNTPPGPKG 180
DB 121 GISKPTIVSSKGLDKVITVOKTVTAITVILDSKVDYRGYQSMDFIKXNTPPGPKG 180
QY 181 SSKFTVEVRKEQVALIMNSGSGTGLPKGVQLTHENVTRFSHARDDPIYGNVSPGTAITLV 240
DB 181 SSKFTVEVRKEQVALIMNSGSGTGLPKGVQLTHENVTRFSHARDDPIYGNVSPGTAITLV 240
QY 241 TVVPFHGFMFTTGLGYLTCGFRIVMLTKDEETFLKTLQDYKSSVILVPTLFAILNR 300
DB 241 TVVPFHGFMFTTGLGYLTCGFRIVMLTKDEETFLKTLQDYKSSVILVPTLFAILNR 300

QY 301 ELLDKYDLSNLVEIASGAPLSKEIGAVARRFNLPGVRQGYGLTETTSIIITPEGDDK 360
DB 301 ELLDKYDLSNLVEIASGAPLSKEIGAVARRFNLPGVRQGYGLTETTSIIITPEGDDK 360
QY 361 PGASGKVVPFLPKAVIDLDTKKTILGNRGEVCKVGPMLMKGYVDNPEATREIIDEEGWL 420
DB 361 PGASGKVVPFLPKAVIDLDTKKTILGNRGEVCKVGPMLMKGYVDNPEATREIIDEEGWL 420
QY 421 HTGDIGYDEEKHFFIVDRLSKLIKYGYQVPPAELESVLLQHPNIFDAGVAGVPDPIAG 480
DB 421 HTGDIGYDEEKHFFIVDRLSKLIKYGYQVPPAELESVLLQHPNIFDAGVAGVPDPIAG 480
QY 481 ELPGAVVVLKKGKSMTEKEVMDYVASQVSNAKRLRGVRFVDEVPKGLTKIDGKAIREI 540
DB 481 ELPGAVVVLKKGKSMTEKEVMDYVASQVSNAKRLRGVRFVDEVPKGLTKIDGKAIREI 540
QY 541 LKPEVAKM 548
DB 541 LKPEVAKM 548
RESULT 13
US-09-111-752-10
; Sequence 10, Application US/09111752
; Patent No. 6074859
; GENERAL INFORMATION:
; APPLICANT: HIROKAWA, KOZO
; APPLICANT: KAJIYAMA, NAOKI
; APPLICANT: MURAKAMI, SEIJI
; TITLE OF INVENTION: MUTANT-TYPE BIOLUMINESCENT PROTEIN, AND
; TITLE OF INVENTION: PROCESS FOR PRODUCING MUTANT-TYPE LUMINESCENT PROTEIN
; NUMBER OF SEQUENCES: 14
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT,
; ADDRESSEE: P.C. JEFFERSON DAVIS HIGHWAY, SUITE 400
; STREET: 1755 S. JEFFERSON DAVIS HIGHWAY, SUITE 400
; CITY: ARLINGTON
; STATE: VA
; COUNTRY: USA
; ZIP: 22202
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/111,752
; FILING DATE: 08-JUL-1998
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: OBLON, NORMAN F.
; REGISTRATION NUMBER: 24,618
; REFERENCE/DOCKET NUMBER: 7126-0009-0
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 703-413-3000
; TELEFAX: 703-413-2220
; INFORMATION FOR SEQ ID NO: 10:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 552 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; ORIGINAL SOURCE:
; ORGANISM: Luciola lateralis, Photinus pyralis
US-09-111-752-10
Query Match 95.7%; Score 2701; DB 3; Length 552;
Best Local Similarity 96.1%; Pred. No. 8.8e-277;
Matches 522; Conservative 11; Mismatches 10; Indels 0; Gaps 0;
QY 1 MENMENDENIVYGPPEFYPIEGSAGALRKYMRYAKLGATFNAITGVDYTYAEYLE 60

[illegible]

RESULT 14

US-07-675-211-2
; Sequence 2, Application US/07675211
; Patent No. 5219737
; GENERAL INFORMATION:
; APPLICANT: KAJIYAMA, NAOKI
; APPLICANT: NAKANO, EIICHI
; TITLE OF INVENTION: MUTANT LUCIFERASE OF A FIREFLY, MUTANT
; TITLE OF INVENTION: LUCIFERASE GENES, NOVEL RECOMBINANT DNAS CONTAINING THE
; TITLE OF INVENTION: GENES AND A METHOD OF PRODUCING MUTANT LUCIFERASE
; NUMBER OF SEQUENCES: 4
; CORRESPONDENCE ADDRESS:
; ADDRESSED: PENNIE & EDMONDS
; STREET: 1155 AVENUE OF THE AMERICAS
; CITY: NEW YORK
; STATE: N.Y.
; COUNTRY: U.S.A
; ZIP: 10036
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/675,211
; FILING DATE: 19910326
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: MISROCK, S. LESLIE
; REGISTRATION NUMBER: 18,872
; REFERENCE/DOCKET NUMBER: 7005-026-999
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 212-790-9090

	TELEFAX:	212-869-9741	
	TELEX:	66141 PENNIE	
	INFORMATION FOR SEQ ID NO:	2:	
	SEQUENCE CHARACTERISTICS:		
	LENGTH:	548 amino acids	
	TYPE:	AMINO ACID	
	TOPOLOGY:	linear	
	MOLECULE TYPE:	peptide	
	ORIGINAL SOURCE:		
	ORGANISM:	Luciola cruciata	
	US-07-675-211-2		
	Query Match	95.1%; Score 2684; DB 1; Length 548;	
	Best Local Similarity	93.4%; Pred.No.5e-275;	
	Matches 512; Conservative 26; Mismatches 10; Indels 0; Gaps 0;		
QY	1	MENMENDNIIVGGPEFPYPPIEEGSAGAQLEKYMDRVAKLGAIAFTNALTGVDVTVAEYLE	60
DB	1	MENMENDNIIVGPKPFYPIEEGSAGYQLAKYMERVAKLGAIAFTNAVTGVDSYAYLE	60
QY	61	KSCCLGEALKNYGLWDRIALCSENCEBEFFIPVLAGLFIGVGVAFTNEIYTLRELVHSL	120
DB	61	KSCCLGKALQNYGLWDRIALCSENCEBEFFIPVIAGLFIGVGVAFTNEIYTLRELVHSL	120
QY	121	GISKPTIIVFSKKGLDKVITVKQTWTAKITVIIILDSKVYRGYSQMDNFIKKMTPOGPKG	180
DB	121	GISKPTIIVFSKKGLDKVITVKQTVTIIKITVIIILDSKVYRGYQCILDTFIKNTPPGQA	180
QY	181	SFKTVEVNRKEQVALIMNSGSTGLPGVOLTHENIVTRFSHARDPIYGNQVSPGTAIL	240
DB	181	SFKTVEVDRKEQVALIMNSSGSTGLPGVOLTHEINTVTRFSHARDPIYGNQVSPGTAVL	240
QY	241	TVPFHGHFGMFTTLGYLTGCFRTVMLTKEDETEFLKTLDYKCSSVILLVPTLEALLNRS	300
DB	241	TVPFHGHFGMFTTLGYLICGRFVVMTKFEDETFELTKLDYKCTSVILLVPTLPAILNKS	300
QY	301	ELLDDYDLSNLVEIASGAGPLSKIEISAVARRNFLPQVRQGYGLTETTSALIIITPEGDDK	360
DB	301	ELLNKYDLSNLVEIASGAGPLSKIEVGEAVARRNFLPQVRQGYGLTETTSALIIITPEGDDK	360
QY	361	PASGKVVPLPKAKVIDLDTKYTLGNRRGEVCVKGMPLMKGYVDNPPEATRIIIDSEGLW	420
DB	361	PASGKVVPLPKAKVIDLDTKSLGNRRGEVCVKGMPLMKGYVDNPPEATRLIDEEGWL	420
QY	421	HGTGDIGYDEEKHFPIVDRLKSLIKYKGYPVPAELESVLLQHPNIFDAGVAGVDPPIAG	480
DB	421	HGTGDIGYDEEKHFPIVDRLKSLIKYKGYPVPAELESVLLQHPISFDAGVAGVDPVAG	480
QY	481	ELPGAUVVLKKGKSWTBREVMNDYVASQVSNAKLRGGRVFVEVPKGLTGKIDGKAIREI	540
DB	481	ELPGAUVVLESCKNTEKMEVDYVASQVSNAKLRGGRVFVEVPKGLTGKIDGRAIREI	540
QY	541	LKKPVAKM	548
DB	541	LKKPVAKM	548
 RESULT 15 US-07-903-047-2 Sequence 2, Application US/07903047 Patent No.529285 GENERAL INFORMATION: APPLICANT: Kajiyama, Naoki APPLICANT: Nakano, Eiichi TITLE OF INVENTION: Thermostable Luciferase Gene Of Firefly, TITLE OF INVENTION: Thermostable Luciferase Gene Of Firefly, No. 5229285 TITLE OF INVENTION: DNA, And Process For The Preparation Of Thermostable TITLE OF INVENTION: Luciferase Of Firefly NUMBER OF SEQUENCES: 11 CORRESPONDENCE ADDRESS: ADDRESSSEE: Pennie & Edmonds STREET: 1155 Avenue of the Americas CITY: New York			

```

; STATE: New York
; COUNTRY: U.S.A.
; ZIP: 10036-2711
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/903,047
; FILING DATE: 19920623
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: Misrock, S. Leslie
; REGISTRATION NUMBER: 18,872
; REFERENCE/DOCKET NUMBER: 7005-048
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 212 790-9090
; TELEFAX: 212 869-8864/9741
; TELEX: 66141 PENNIE
; INFORMATION FOR SEQ ID NO: 2:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 548 amino acids
; TYPE: AMINO ACID
; STRANDEDNESS: single
; TOPOLOGY: unknown
; MOLECULE TYPE: peptide
; US-07-903-047-2

Query Match          95.1%; Score 2684; DB 1; Length 548;
Best Local Similarity 93.4%; Pred. No. 5.5e-275;
Matches 512; Conservative 26; Mismatches 10; Indels 0; Gaps 0;

QY 1 MENMENDENIVGPEPPYPIEBSAGALRKYMRYAKLGAIAFTNALTGVDTYVAEYLE 60
Db 1 MENMENDENIVGPKFPYPIEBSAGTLRKMYERYAKLGAIAFTNALTGVDTYVAEYLE 60
QY 61 KSCCLGKALQNYGLVVDGRIALCSECEFFIPVLAGLFIGVGVAPTNEIYTLRELVHSL 120
Db 61 KSCCLGKALQNYGLVVDGRIALCSECEFFIPVLAGLFIGVGVAPTNEIYTLRELVHSL 120
QY 121 GISKPTIVFSSKKGDLKDVITVQKTVTAIKTIVILDSKVDYRGYQSDMNFPIKNTPPQFGK 180
Db 121 GISKPTIVFSSKKGDLKDVITVQKTVTAIKTIVILDSKVDYRGYQSDMNFPIKNTPPQFGK 180
QY 181 SSFKTIVFNKKEQVALIMNSSGSTGLPKGVQLTHENIVTRFSHARDPIYGNQVSPGTAIL 240
Db 181 SSFKTIVFNKKEQVALIMNSSGSTGLPKGVQLTHENIVTRFSHARDPIYGNQVSPGTAIL 240
QY 241 TVPFFHGFHGMFTTGLYLCGFRVWMLTKFDEBETFLKTLQDYKCSVILVPTLFAILNRS 300
Db 241 TVPFFHGFHGMFTTGLYLCGFRVWMLTKFDEBETFLKTLQDYKCSVILVPTLFAILNRS 300

; STATE: New York
; COUNTRY: U.S.A.
; ZIP: 10036-2711
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/076,042
; FILING DATE: 15-JUN-1993
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/675,211
; FILING DATE: 26-MAR-1991
; NAME: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: MISROCK, S. LESLIE
; REGISTRATION NUMBER: 18,872
; REFERENCE/DOCKET NUMBER: 7005-026-999
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 212-790-9090
; TELEFAX: 212-869-9741
; TELEX: 66141 PENNIE
; INFORMATION FOR SEQ ID NO: 2:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 548 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; ORIGINAL SOURCE:
; ORGANISM: Luciola cruciata
; US-08-076-042-2

Query Match          95.1%; Score 2684; DB 1; Length 548;
Best Local Similarity 93.4%; Pred. No. 5.5e-275;
Matches 512; Conservative 26; Mismatches 10; Indels 0; Gaps 0;

QY 1 MENMENDENIVGPEPPYPIEBSAGALRKYMRYAKLGAIAFTNALTGVDTYVAEYLE 60
Db 1 MENMENDENIVGPKFPYPIEBSAGTLRKMYERYAKLGAIAFTNALTGVDTYVAEYLE 60
QY 61 KSCCLGKALQNYGLVVDGRIALCSECEFFIPVLAGLFIGVGVAPTNEIYTLRELVHSL 120
Db 61 KSCCLGKALQNYGLVVDGRIALCSECEFFIPVLAGLFIGVGVAPTNEIYTLRELVHSL 120
QY 121 GISKPTIVFSSKKGDLKDVITVQKTVTAIKTIVILDSKVDYRGYQSDMNFPIKNTPPQFGK 180
Db 121 GISKPTIVFSSKKGDLKDVITVQKTVTAIKTIVILDSKVDYRGYQSDMNFPIKNTPPQFGK 180
QY 181 SSFKTIVFNKKEQVALIMNSSGSTGLPKGVQLTHENIVTRFSHARDPIYGNQVSPGTAIL 240
Db 181 SSFKTIVFNKKEQVALIMNSSGSTGLPKGVQLTHENIVTRFSHARDPIYGNQVSPGTAIL 240
QY 241 TVPFFHGFHGMFTTGLYLCGFRVWMLTKFDEBETFLKTLQDYKCSVILVPTLFAILNRS 300
Db 241 TVPFFHGFHGMFTTGLYLCGFRVWMLTKFDEBETFLKTLQDYKCSVILVPTLFAILNRS 300

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QY 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAVARRNLPVGRQGYGLTETTSALIIITPEGDDK 360
 DB 301 ELLNKYDLSNLVEIASGGAPLSKEIGEAVARRNLPVGRQGYGLTETTSALIIITPEGDDK 360

QY 361 PGASGVVPLFKAKVIDLDTKTLGNRRGEVCVKGPMKMGVNDPEATRIIDEEGWL 420
 DB 361 PGASGVVPLFKAKVIDLDTKTLGNRRGEVCVKGPMKMGVNDPEATRIIDEEGWL 420

QY 421 HTGDIGYDDEKHEFFIVDRLSLIIKYGYQVPPAELESVLLQHPNIFDAGVGPDPVAG 480
 DB 421 HTGDIGYDDEKHEFFIVDRLSLIIKYGYQVPPAELESVLLQHPNIFDAGVGPDPVAG 480

QY 481 ELPGAVVLLKKGKSMTEKEVMDIVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
 DB 481 ELPGAVVLLKKGKSMTEKEVMDIVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540

QY 541 LKXPVAKM 548
 DB 541 LKXPVAKM 548

RESULT 17
 US-09-380-061B-14
 ; Sequence 14, Application US/09380061B
 ; Patent No. 6265177
 ; GENERAL INFORMATION:
 ; APPLICANT: SQUIRRELL, DAVID JAMES
 ; WHITE, PETER JOHN
 ; LOWE, CHRISTOPHER ROBIN
 ; MURRAY, JAMES AUGUSTUS HENRY
 ; TITLE OF INVENTION: ENZYME ASSAY FOR MUTANT FIREFLY LUCIFERASE
 ; NUMBER OF SEQUENCES: 21
 ; CORRESPONDENCE ADDRESS:
 ; ADDRESSEE: NIXON & VANDERHYE P.C.
 ; STREET: 1100 NORTH GLEBE ROAD
 ; CITY: ARLINGTON
 ; STATE: VIRGINIA
 ; COUNTRY: U.S.A.
 ; ZIP: 22201-4714
 ; COMPUTER READABLE FORM:
 ; MEDIUM TYPE: Floppy disk
 ; COMPUTER: IBM PC compatible
 ; OPERATING SYSTEM: PC-DOS/MS-DOS
 ; SOFTWARE: PatentIn Release #1.0, Version #1.25 (BPO)
 ; CURRENT APPLICATION DATA:
 ; APPLICATION NUMBER: US/09/380,061B
 ; FILING DATE: 25-Aug-1999
 ; CLASSIFICATION: <Unknown>
 ; PRIOR APPLICATION DATA:
 ; APPLICATION NUMBER: PCT/GB98/01026
 ; FILING DATE: 7-APR-1998
 ; APPLICATION NUMBER: GB 9707468.8
 ; FILING DATE: 11-APR-1997
 ; ATTORNEY/AGENT INFORMATION:
 ; NAME: SAOUFF, B. J.
 ; REGISTRATION NUMBER: 36,663
 ; REFERENCE/DOCKET NUMBER: 124-725
 ; TELECOMMUNICATION INFORMATION:
 ; TELEPHONE: (703) 816-4000
 ; TELEFAX: (703) 816-4100
 ; INFORMATION FOR SEQ ID NO: 14:
 ; SEQUENCE CHARACTERISTICS:
 ; LENGTH: 548 amino acids
 ; TYPE: amino acid
 ; TOPOLOGY: linear
 ; MOLECULE TYPE: protein
 ; SEQUENCE DESCRIPTION: SEQ ID NO: 14:
 US-09-380-061B-14

Query Match 95.1%; Score 2684; DB 3; Length 548;
 Best Local Similarity 93.4%; Pred. No. 5.5e-275;
 Matches 512; Conservative 26; Mismatches 10; Indels 0; Gaps 0;

QY 1 MENNENDENIVGPEPPYPIEBSAGQALRKYMORVAKLGAIAFTNALTQVDVITYAYBLE 60
 DB 1 MENNENDENIVGPKFPYPIEBSAGTQLRKYMERYAKLGAIAFTNALTQVDVITYAYBLE 60

QY 61 KSCCLGKALKNYGLVNDGRIALCSECEBEFFIPVLAGLFGVGVAPTNEYITRELHVSL 120
 DB 61 KSCCLGKALQNYGLVNDGRIALCSECEBEFFIPVIAGLFGVGVAPTNEYITRELHVSL 120

QY 121 GISKPTIVFSKSKGLDKVITVQKTVTAIKTIVILDSKVDYRGYSMDNFIKKNTPOGFKG 180
 DB 121 GISKPTIVFSKSKGLDKVITVQKTVTITIKTIVILDSKVDYRGYQCLDTFKRNTPPGQA 180

QY 181 SSFKTVEVNRKEQVALLMNSGSGTGLPKGVQLTHENIVTRFSHAROPTYGNVSPGTAIL 240
 DB 181 SSFKTVEVDRKEQVALLMNSGSGTGLPKGVQLTHENIVTRFSHAROPTYGNVSPGTAVL 240

QY 241 TVPFFHFGFMFTTGLYTCGRIVMLTKFDEETFLKTLQDYKCSSVILVPTLFAILNRS 300
 DB 241 TVPFFHFGFMFTTGLYLCGRFVVMLTKFDEETFLKTLQDYKCTSVILVPTLFAILNKS 300

QY 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAVARRNLPVGRQGYGLTETTSALIIITPEGDDK 360
 DB 301 ELLNKYDLSNLVEIASGGAPLSKEIGEAVARRNLPVGRQGYGLTETTSALIIITPEGDDK 360

QY 361 PGASGVVPLFKAKVIDLDTKTLGNRRGEVCVKGPMKMGVNDPEATRIIDEEGWL 420
 DB 361 PGASGVVPLFKAKVIDLDTKTLGNRRGEVCVKGPMKMGVNDPEATRIIDEEGWL 420

QY 421 HTGDIGYDDEKHEFFIVDRLSLIIKYGYQVPPAELESVLLQHPNIFDAGVGPDPVAG 480
 DB 421 HTGDIGYDDEKHEFFIVDRLSLIIKYGYQVPPAELESVLLQHPNIFDAGVGPDPVAG 480

QY 481 ELPGAVVLLKKGKSMTEKEVMDIVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
 DB 481 ELPGAVVLLKKGKSMTEKEVMDIVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540

QY 541 LKXPVAKM 548
 DB 541 LKXPVAKM 548

RESULT 18
 US-09-386-154-27
 ; Sequence 27, Application US/09396154
 ; Patent No. 6602577
 ; GENERAL INFORMATION:
 ; APPLICANT: Wood, Keith V.
 ; APPLICANT: Hall, Mary P.
 ; TITLE OF INVENTION: Thermostable luciferases and methods of
 ; TITLE OF INVENTION: production
 ; FILE REFERENCE: 341.012US1
 ; CURRENT APPLICATION NUMBER: US/09/396,154
 ; CURRENT FILING DATE: 1999-09-15
 ; EARLIER APPLICATION NUMBER: US 09/156,946
 ; EARLIER FILING DATE: 1998-09-18
 ; EARLIER APPLICATION NUMBER: PCT/US98/19494
 ; EARLIER FILING DATE: 1998-09-18
 ; EARLIER APPLICATION NUMBER: US 60/059,379
 ; EARLIER FILING DATE: 1997-09-19
 ; NUMBER OF SEQ ID NOS: 93
 ; SOFTWARE: FastSeq for Windows Version 3.0
 ; SEQ ID NO 27
 ; LENGTH: 548
 ; TYPE: PRT
 ; ORGANISM: Luciola cruciata
 US-09-396-154-27

Query Match 95.1%; Score 2684; DB 4; Length 548;
 Best Local Similarity 93.4%; Pred. No. 5.5e-275;
 Matches 512; Conservative 26; Mismatches 10; Indels 0; Gaps 0;

QY 1 MENNENDENIVGPEPPYPIEBSAGQALRKYMORVAKLGAIAFTNALTQVDVITYAYBLE 60

DB 541 LK 543

RESULT 21
US-09-111-752-5
; Sequence 5, Application US/09111752
; Patent No. 6074859
; GENERAL INFORMATION:
; APPLICANT: HIROKAWA, KOZO
; APPLICANT: KAJIYAMA, NAOKI
; APPLICANT: MURAKAMI, SEIJI
; TITLE OF INVENTION: MUTANT-TYPE BIOLUMINESCENT PROTEIN, AND
; TITLE OF INVENTION: PROCESS FOR PRODUCING MUTANT-TYPE BIOLUMINESCENT PROTEIN
; NUMBER OF SEQUENCES: 14
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT,
; ADDRESSEE: P.C.
; STREET: 1755 S. JEFFERSON DAVIS HIGHWAY, SUITE 400
; CITY: ARLINGTON
; STATE: VA
; COUNTRY: USA
; ZIP: 22202
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/111,752
; FILING DATE: 08-JUL-1998
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: OBLON, NORMAN F.
; REGISTRATION NUMBER: 24,618
; REFERENCE/DOCKET NUMBER: 7126-0009-0
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 703-413-3000
; TELEFAX: 703-413-2220
; INFORMATION FOR SEQ ID NO: 5:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 552 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; ORIGINAL SOURCE:
; ORGANISM: Luciola cruciata and Phontinus pyralis
; US-09-111-752-5

Query Match 84.8%; Score 2394; DB 3; Length 552;
Best Local Similarity 82.9%; Pred. No. 2.9e-244;
Matches 450; Conservative 54; Mismatches 39; Indels 0; Gaps 0;

QY 1 MENMENDENIVVGPEPPYPIEESGAGALRYKMDRYAKLGAIAFTNALTGVDVYAEYLE 60
DB 1 MENMENDENIVVGPKFPYPIEESGAGALRYKMDRYAKLGAIAFTNAVTVGVDYSYAEYLE 60
QY 61 KSCCLGEALKNYGLVVDGRIALCSENCEEFFIPVLAGLFIGVGVAPNEIYTLRELHVSL 120
DB 61 KSCCLGRALQNYGLVVDGRIALCSENCEEFFIPVLAGLFIGVGVAPNEIYTLRELHVSL 120
QY 121 GISKPTIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQSMDFIKKNTPPGFKG 180
DB 121 GISKPTIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQCLDTFKRNTPPGQA 180
QY 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENIVTRFSHARDPIYGNQVSPGTAIL 240
DB 181 SSFKTVEVDRKEQVALIMNSSGSTGLPKGVQLTHENIVTRFSHARDPIYGNQVSPGTAIL 240
QY 241 TVVPHHGFMTTILGYLTGCFRIVMLTKPDEETFLKLDYKCSSVILVPTLFAILNRS 300
DB 241 SVVPHHGFMTTILGYLTGCFRIVMLTKPDEETFLKLDYKCSSVILVPTLFAILNRS 300

DB 541 LK 543

CITY: ARLINGTON
; STATE: VA
; COUNTRY: USA
; ZIP: 22202
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/111,752
; FILING DATE: 08-JUL-1998
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: OBLON, NORMAN F.
; REGISTRATION NUMBER: 24,618
; REFERENCE/DOCKET NUMBER: 7126-0009-0
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 703-413-3000
; TELEFAX: 703-413-2220
; INFORMATION FOR SEQ ID NO: 7:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 552 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; ORIGINAL SOURCE:
; ORGANISM: Luciola cruciata and Phontinus pyralis
; US-09-111-752-7

Query Match 91.7%; Score 2590; DB 3; Length 552;
Best Local Similarity 91.0%; Pred. No. 5e-265;
Matches 494; Conservative 31; Mismatches 18; Indels 0; Gaps 0;

QY 1 MENMENDENIVVGPEPPYPIEESGAGALRYKMDRYAKLGAIAFTNALTGVDVYAEYLE 60
DB 1 MENMENDENIVVGPKFPYPIEESGAGALRYKMDRYAKLGAIAFTNAVTVGVDYSYAEYLE 60
QY 61 KSCCLGEALKNYGLVVDGRIALCSENCEEFFIPVLAGLFIGVGVAPNEIYTLRELHVSL 120
DB 61 KSCCLGRALQNYGLVVDGRIALCSENCEEFFIPVLAGLFIGVGVAPNEIYTLRELHVSL 120
QY 121 GISKPTIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQSMDFIKKNTPPGFKG 180
DB 121 GISKPTIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQCLDTFKRNTPPGQA 180
QY 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENIVTRFSHARDPIYGNQVSPGTAIL 240
DB 181 SSFKTVEVDRKEQVALIMNSSGSTGLPKGVQLTHENIVTRFSHARDPIYGNQVSPGTAIL 240
QY 241 TVVPHHGFMTTILGYLTGCFRIVMLTKPDEETFLKLDYKCSSVILVPTLFAILNRS 300
DB 241 TVVPHHGFMTTILGYLTGCFRIVMLTKPDEETFLKLDYKCSSVILVPTLFAILNRS 300
QY 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAVARRFNLPGVRQGYGLTETTSAILITPEGDDK 360
DB 301 ELLNKYDLSNLVEIASGGAPLSKEIGEAVARRFNLPGVRQGYGLTETTSAILITPEGDDK 360
QY 361 PGASGVVPLFKAVIDLDTKTLGNRRGVCVKPMLKMGYVNDPEATREIIDEGLW 420
DB 361 PGASGVVPLFKAVIDLDTKTLGNRRGVCVKPMLKMGYVNDPEATREIIDEGLW 420
QY 421 HTGDIQYDEEKKHFFIVDRLSLKIYKGYQVAPAELESILLQHPNIFDAGVAGVDPDIA 480
DB 421 HTGDIQYDEEKKHFFIVDRLSLKIYKGYQVAPAELESILLQHPNIFDAGVAGVDPDIA 480
QY 481 ELPAGVVLKKGSKTEKEVMDVYASQVSNKARLGGVRFVDEVPKGLTGKIDGKAIREI 540
DB 481 ELPAAVVLEHGKITEKEIYDVYASQVTTAKLGGVVFVDEVPKGLTGKIDGKAIREI 540

301 ELLDKYDLSNLVFIASGGAPLSKEIGEAVARRETNLPVROGYGLTETTTSAIIITPBGDDK 360
301 TLIDKYDLSNLVFIASGGAPLSKEIGEAVARRETNLPVROGYGLTETTTSAIIITPBGDDK 360
361 PGASGVVPLFKAKVIDLDTKTLGNRRGEVCKGPMKMGVYDNPBTRILIDEGWL 420
361 PGAVGVVPLFKAKVIDLDTKTLGNRRGEVCKGPMKMGVYDNPBTRILIDEGWL 420
421 HTGDIGYDEDEHFFIVDLRLKSLIKYKGYQVPPAELESVLLQHPNIFDAGVAGVDPPIAG 480
421 HSGDIAYWDEDEHFFIVDLRLKSLIKYKGYQVPPAELESVLLQHPNIFDAGVAGVDPPIAG 480
481 ELPGAVVLLKKGSKMTEKEVMDYVASQVSNKRLRGVRFVDPVKGLTGKIDGKAIREI 540
481 ELPAVVVLLKKGSKMTEKEVMDYVASQVSNKRLRGVRFVDPVKGLTGKIDGKAIREI 540
541 LKK 543
541 LK 543

RESULT 22
US-09-380-061B-18
; Sequence 18, Application US/09380061B
; Patent No. 6265177
; GENERAL INFORMATION:
; APPLICANT: SQUIRELL, DAVID JAMES
; WHITE, PETER JOHN
; LOWE, CHRISTOPHER ROBIN
; MURRAY, JAMES AUGUSTUS HENRY
; TITLE OF INVENTION: ENZYME ASSAY FOR MUTANT FIREFLY LUCIFERASE
; NUMBER OF SEQUENCES: 21
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: NIXON & VANDERHYE P.C.
; STREET: 1100 NORTH GLEBE ROAD
; CITY: ARLINGTON
; STATE: VIRGINIA
; COUNTRY: U.S.A.
; ZIP: 22201-4714
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25 (BPO)
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/380,061B
; FILING DATE: 25-Aug-1999
; CLASSIFICATION: <Unknown>
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: PCT/GB98/01026
; FILING DATE: 7-APR-1998
; APPLICATION NUMBER: GB 9707468.8
; FILING DATE: 11-APR-1997
; ATTORNEY/AGENT INFORMATION:
; NAME: SADOFF, B. J.
; REGISTRATION NUMBER: 36,663
; REFERENCE/DOCKET NUMBER: 124-725
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (703)816-4000
; TELEFAX: (703)816-4100
; INFORMATION FOR SEQ ID NO: 18:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 548 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; SEQUENCE DESCRIPTION: SEQ ID NO: 18:
US-09-380-061B-18

Query Match 82.7%; Score 2335.5; DB 3; Length 548;
Best Local Similarity 81.7%; Pred. No. 4.4e-238;
Matches 446; Conservative 47; Mismatches 52; Indels 1; Gaps 1;

4 MENENIYVGPFPPIIEGSGAQLRKYMDRYAKLGAIAFTNALTGVDVYTYABYLEKSC 63
3 MEKENVYVGPFPPIIEGSGAQLRKYMDRYAKLGAIAFTNALTGVDVYTYABYLEKSC 62
64 CLGEALKNYGLVWGRIALCSENECEEPFIPVLAGLFTGVGVAPNEIYTLRELHSLGIS 123
63 RLAEAMKQFKGKPEHIALCSENECEEPFIPVLAGLFTGVGVAPNEIYTLRELHSLGIS 122
124 KPTIVFSSKGLDKVITVQKTWTATKTVILDSKVDRGYQSDMNFINKNTPOGFKGSSF 183
123 OPTIVFSSKGLDKVITVQKTWTATKTVILDSKVDRGYQSDMNFINKNTPOGFKGSSF 182
184 KTEVE-NRKEQVALIMNSSGSTGLPKGVQLTHENIVTRFSHARDPIYGNQVSPGTAILTV 242
183 VPIDVKNRKHQVALLMNSSGSTGLPKGVRIITHEGAVTRFSHAKDPIYGNQVSPGTAILTV 242
243 VPFHFGCMFTTGLYTCGFRIVMLTKFDEETELKTDYKCSSVILVPTLFAILNSEL 302
243 VPFHFGCMFTTGLYTCGFRIVMLTKFDEETELKTDYKCSSVILVPTLFAILNSEL 302
303 LDYDLSNLVFIASGGAPLSKEIGEAVARRETNLPVROGYGLTETTTSAIIITPBGDDKPG 362
303 IDKPDLSNLVFIASGGAPLSKEIGEAVARRETNLPVROGYGLTETTTSAIIITPBGDDKPG 362
363 ASGVVPLFKAKVIDLDTKTLGNRRGEVCKGPMKMGVYDNPBTRILIDEGWLHT 422
363 ASGVVPLFKAKVIDLDTKTLGNRRGEVCKGPMKMGVYDNPBTRILIDEGWLHT 422
423 GDIGYDEDEHFFIVDLRLKSLIKYKGYQVPPAELESVLLQHPNIFDAGVAGVDPPIAGEL 482
423 GDIGYDEDEHFFIVDLRLKSLIKYKGYQVPPAELESVLLQHPNIFDAGVAGVDPPIAGEL 482
483 PGAVVLLKKGSKMTEKEVMDYVASQVSNKRLRGVRFVDPVKGLTGKIDGKAIREILK 542
483 PGAVVLLKKGSKMTEKEVMDYVASQVSNKRLRGVRFVDPVKGLTGKIDGKAIREILK 542
543 KPVAKM 548
543 KPVAKM 548

RESULT 23
US-08-487-183A-16
; Sequence 16, Application US/08487183A
; Patent No. 6387675
; GENERAL INFORMATION:
; APPLICANT: WOOD, Keith V.
; APPLICANT: GRUBER, Monika G.
; TITLE OF INVENTION: MUTANT LUCIFERASES
; NUMBER OF SEQUENCES: 16
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Foley & Lardner
; STREET: P.O. Box 1497
; CITY: Madison
; STATE: WI
; ZIP: 53701-1497
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/487,183A
; FILING DATE: 06-JUN-1995
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/467,773
; FILING DATE: 06-JUN-1995
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/177,081
; FILING DATE: 03-JAN-1994
; ATTORNEY/AGENT INFORMATION:

NAME: Scanlon, William J.
 REGISTRATION NUMBER: 31,136
 REFERENCE/DOCKET NUMBER: 19017/166
 TELECOMMUNICATION INFORMATION:
 TELEPHONE: (608)258-5035
 TELEFAX: (608)258-4258
 INFORMATION FOR SEQ ID NO: 16:
 SEQUENCE CHARACTERISTICS:
 LENGTH: 548 amino acids
 TYPE: amino acid
 TOPOLOGY: linear
 MOLECULE TYPE: protein
 US-08-487-183A-16

Query Match 82.7%; Score 2335.5; DB 4; Length 548;
 Best Local Similarity 81.7%; Pred. No. 4.4e-238;
 Matches 446; Conservative 47; Mismatches 52; Indels 1; Gaps 1;
 QY 4 MENDENIVGPEPFYPIEESGAGQRLKYMDRYAKLGAIATFTALTGVDYVAEYLEKSC 63
 Db 3 MEKEENVVYGPLPFYPIEESGAGIQLHKYMQYAKLGAIATFTALTGVDISIQEYFDITC 62
 QY 64 CLGEALKNYGLVVDGRIALCSECEFFIPVLAGLFIGVGVAPTNIETLRELVHSLGIS 123
 Db 63 RLAEAMKNFGMKPEEHIALCSECEFFIPVLAGLFIGVGVAPTNIETLRELHSLGIA 122
 QY 124 KPTIVFSSKGLDKVITVQKTTAICTIVILDSKVYRGYQSMDFIKKNTPOGFKGSSF 183
 Db 123 OPTIVFSSRKLGVLEQVKTVCICKIVILDSKVNFSGHDCMETFIKKHVELGFPQSSF 182
 QY 184 KTEVEV-NRKEQVALIMNSSGSTGLPKGVRLTHEGAVTRFSHAKDPIYGNQVSPGTAILTV 242
 Db 183 VPIDVKNRKQHVALLNMSSGSTGLPKGVRLTHEGAVTRFSHAKDPIYGNQVSPGTAILTV 242
 QY 243 VPFHFGMTTGLYTCGPRIWMLTKFDEBETFLQDYKCSSVILVPTLFAILNRSEL 302
 Db 243 VPFHFGMTTGLYTCGPRIWMLTKFDEBETFLQDYKCSSVILVPTLFAILNRSEL 302
 QY 303 LDKYDLSNLVETIASGGAPLKEIAGEAVARFNLPGVRQGYGLTETTSAILIITPEGDDKPG 362
 Db 303 IDKFDLSNLVETIASGGAPLKEIAGEAVARFNLPGVRQGYGLTETTSAILIITPEGDDKPG 362
 QY 363 ASGWVPLFKAKVIDLDTKKTGLGNRRGEVCKVGMKMGVYDNPATREIIDEGWLHT 422
 Db 363 ASGWVPLFKAKVIDLDTKKTGLGNRRGEVCKVGMKMGVYDNPATREIIDEGWLHT 422
 QY 423 GDIGYDEDEHFFIVDLKSLIKYGVQVPPAELESVLLQHPNIFDAGVAGVDPDPDAGEL 482
 Db 423 GDIGYDEDEHFFIVDLKSLIKYGVQVPPAELESVLLQHPNIFDAGVAGVDPDPDAGEL 482
 QY 483 PGAVVVLKKGKSMTEKEVMDYVASQVSNKRLRGVRFVDEVPKGLTGKIDGKAIREILK 542
 Db 483 PGAVVVMKKGKMTKEIIVDYVNSQVNVNHRKLRGGVRFVDEVPKGLTGKIDAKVIREILK 542
 QY 543 KPVAKM 548
 Db 543 KPOAKM 548

RESULT 24
 US-09-396-154-29
 ; Sequence 29, Application US/09396154
 ; Patent No. 6602677
 ; GENERAL INFORMATION:
 ; APPLICANT: Wood, Keith V.
 ; APPLICANT: Hall, Mary P.
 ; TITLE OF INVENTION: Thermostable luciferases and methods of
 ; FILE REFERENCE: 341.012US1
 ; CURRENT APPLICATION NUMBER: US/09/396,154
 ; EARLIER FILING DATE: 1999-09-15
 ; EARLIER APPLICATION NUMBER: US 09/156,946
 ; EARLIER FILING DATE: 1998-09-18

NAME: Scanlon, William J.
 REGISTRATION NUMBER: 31,136
 REFERENCE/DOCKET NUMBER: 19017/166
 TELECOMMUNICATION INFORMATION:
 TELEPHONE: (608)258-5035
 TELEFAX: (608)258-4258
 INFORMATION FOR SEQ ID NO: 16:
 SEQUENCE CHARACTERISTICS:
 LENGTH: 548
 TYPE: PRT
 ORGANISM: Luciola mingrellica
 US-09-396-154-23

Query Match 82.7%; Score 2335.5; DB 4; Length 548;
 Best Local Similarity 81.7%; Pred. No. 4.4e-238;
 Matches 446; Conservative 47; Mismatches 52; Indels 1; Gaps 1;
 QY 4 MENDENIVGPEPFYPIEESGAGQRLKYMDRYAKLGAIATFTALTGVDYVAEYLEKSC 63
 Db 3 MEKEENVVYGPLPFYPIEESGAGIQLHKYMQYAKLGAIATFTALTGVDISIQEYFDITC 62
 QY 64 CLGEALKNYGLVVDGRIALCSECEFFIPVLAGLFIGVGVAPTNIETLRELVHSLGIS 123
 Db 63 RLAEAMKNFGMKPEEHIALCSECEFFIPVLAGLFIGVGVAPTNIETLRELHSLGIA 122
 QY 124 KPTIVFSSKGLDKVITVQKTTAICTIVILDSKVYRGYQSMDFIKKNTPOGFKGSSF 183
 Db 123 OPTIVFSSRKLGVLEQVKTVCICKIVILDSKVNFSGHDCMETFIKKHVELGFPQSSF 182
 QY 184 KTEVEV-NRKEQVALIMNSSGSTGLPKGVRLTHEGAVTRFSHAKDPIYGNQVSPGTAILTV 242
 Db 183 VPIDVKNRKQHVALLNMSSGSTGLPKGVRLTHEGAVTRFSHAKDPIYGNQVSPGTAILTV 242
 QY 243 VPFHFGMTTGLYTCGPRIWMLTKFDEBETFLQDYKCSSVILVPTLFAILNRSEL 302
 Db 243 VPFHFGMTTGLYTCGPRIWMLTKFDEBETFLQDYKCSSVILVPTLFAILNRSEL 302
 QY 303 LDKYDLSNLVETIASGGAPLKEIAGEAVARFNLPGVRQGYGLTETTSAILIITPEGDDKPG 362
 Db 303 IDKFDLSNLVETIASGGAPLKEIAGEAVARFNLPGVRQGYGLTETTSAILIITPEGDDKPG 362
 QY 363 ASGWVPLFKAKVIDLDTKKTGLGNRRGEVCKVGMKMGVYDNPATREIIDEGWLHT 422
 Db 363 ASGWVPLFKAKVIDLDTKKTGLGNRRGEVCKVGMKMGVYDNPATREIIDEGWLHT 422
 QY 423 GDIGYDEDEHFFIVDLKSLIKYGVQVPPAELESVLLQHPNIFDAGVAGVDPDPDAGEL 482
 Db 423 GDIGYDEDEHFFIVDLKSLIKYGVQVPPAELESVLLQHPNIFDAGVAGVDPDPDAGEL 482
 QY 483 PGAVVVLKKGKSMTEKEVMDYVASQVSNKRLRGVRFVDEVPKGLTGKIDGKAIREILK 542
 Db 483 PGAVVVMKKGKMTKEIIVDYVNSQVNVNHRKLRGGVRFVDEVPKGLTGKIDAKVIREILK 542
 QY 543 KPVAKM 548
 Db 543 KPOAKM 548

RESULT 25
 US-09-380-061B-20
 ; Sequence 20, Application US/09380061B
 ; Patent No. 6265177
 ; GENERAL INFORMATION:
 ; APPLICANT: SQUIRELL, DAVID JAMES
 ; WHITE, PETER JOHN
 ; LOWE, CHRISTOPHER ROBIN
 ; MURRAY, JAMES AUGUSTUS HENRY
 ; TITLE OF INVENTION: ENZYME ASSAY FOR MUTANT FIREFLY LUCIFERASE
 ; NUMBER OF SEQUENCES: 21
 ; CORRESPONDENCE ADDRESS:
 ; ADDRESSEE: NIXON & VANDERHYE P.C.
 ; STREET: 1100 NORTH GLEBE ROAD
 ; CITY: ARLINGTON
 ; STATE: VIRGINIA

Search completed: July 22, 2004, 08:21:20
Job time : 17.6667 secs

COUNTRY: U.S.A.
ZIP: 22201-4714
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25 (EPO)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/380,061B
FILING DATE: 25-Aug-1999
CLASSIFICATION: <Unknown>
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/GB98/01025
FILING DATE: 7-APR-1998
APPLICATION NUMBER: GB 9707468.8
FILING DATE: 11-APR-1997
ATTORNEY/AGENT INFORMATION:
NAME: SADOFF, B. J.
REGISTRATION NUMBER: 36,663
REFERENCE/DOCKET NUMBER: 124-725
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703)816-4000
TELEFAX: (703)816-4100
INFORMATION FOR SEQ ID NO: 20:
SEQUENCE CHARACTERISTICS:
LENGTH: 547 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
SEQUENCE DESCRIPTION: SEQ ID NO: 20:
US-09-380-061B-20

Query Match	69.7%;	Score 1967.5;	DB 3;	Length 547;
Best Local Similarity	69.0%;	Pred. No. 4.2e-199;		
Matches 372; Conservative	76;	Mismatches 90;	Indels 1;	Gaps 1;

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Db	1	MEKAKINMHGAPPYPLEDDTAGQLHKMKRYAQVGTTAFTDAHAEVNITTYSEYEMA	60
QY	63	CCIGEAALKNTGLVVDGRIALCSENCEBFFIPVLVLAGLGIVGVAPTNEIYTLRELVLHSLGI	122
Db	61	CRLAETMKRYGLGLQHIIAVCSSENSLOFPMPVCALFVGVASTNDIYNERELYNLSLI	120
QY	123	SKETIYVPSSKKGLDKVITVOKTVTATKIATIVILDSKVDRYGVSMDNFIKNTPGPGKSS	182
Db	121	SQPTIYSCSRALQKLILGVOKLPIIOKIVILDSREDYMGQSMTYSIESHLPAGFNEYD	180
QY	183	EKTVEYNRKEQVALIMNSSGSTGLPKGVOLTHENIVTRFSHARDPIYGNVSPCTAILTV	242
Db	181	YIPDSFDRETATALIIMNSSGSTGLPKGVOLTHQNVCFVSHCRDPFGNQIIPDTAILTV	240
QY	243	VPHFHGFMFTTLGYLTTCGFRIVMLTKFBDETFKTLQDYKCSSVILVPTFLFAILNRSEL	302
Db	241	IPFHGHGFMFTTLGYLTTCGFRIVLMYFESELFRLSJQDYKISALLVPTLFSFAKSTL	300
QY	303	LKYDYLNLVIELIASGGAPLSKETGEAVAREPNLPQVRQGYGLTETTSAIIITPBGDDKPG	362
Db	301	VDKYDYLNLHEIASGGAPLAKEVGAVERFKLPGIRQGYGLTETTSAIIITPBGDDKPG	360
QY	363	ASGWVPLPKAKVIDLDTKTLGNRRRGECVCKGPMVMKGVDNPPEATREIIDEGMLHT	422
Db	361	ACGWVPPFFSAKIVDLDTGKTLGVNQKGEICVKGPMIMKGVNNPEATSALIDKDWLHS	420
QY	423	GDIGYVDEEKHFTIVDRKLKSLIKYKQYQVPPAELESVLLQHPNIFDAGVAGVDPDIAGEL	482
Db	421	GDIAAYDKDGHFFIVDSLKLSLIKYKQYVPPAELESILLQHPFFDAGVAGIPDPDAGEL	480
QY	483	PGAUVVLKCKSMTEKEWMDYVASOVSNAXLRGCVTFVDEVPKGLTGKTDGRAIREIL	541
Db	481	PARAVVLEEKTTMQEWMDYVAGQVTASXRLRGVRFVDEVPKGLTGKTDGKRIRIL	539

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: July 22, 2004, 08:17:14 ; Search time 41 Seconds
(without alignments)

4185.573 Million cell updates/sec

Title: US-09-581-241A-6

Perfect score: 2823

Sequence: 1 MENMENDENIVGPEPFYPI.....TGKIDKAIRBILKKPVAKM 548

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Gapop 10.0 , Gapext 0.5

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Total number of hits satisfying chosen parameters: 1288442

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 100 summaries

Database :

Published Applications AA:*

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16: /cgn2_6/ptodata/1/pubpaa/US10_NEW_PUB.pep:*

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18: /cgn2_6/ptodata/1/pubpaa/US60_PUBCOMB.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
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2	2805	99.4	548	15	US-10-378-168-28
3	2684	95.1	548	10	US-09-838-469-27
4	2684	95.1	548	15	US-10-378-168-27
5	2335.5	82.7	548	10	US-09-838-469-29
6	2335.5	82.7	548	15	US-10-378-168-29
7	1967.5	69.7	547	10	US-09-838-469-32
8	1967.5	69.7	547	15	US-10-378-168-32
9	1956.5	69.3	975	12	US-10-072-012-329
10	1951.5	69.1	895	14	US-10-348-074-47
11	1945.5	68.9	550	10	US-09-838-469-31
12	1945.5	68.9	550	14	US-10-348-074-34
13	1945.5	68.9	550	15	US-10-378-168-31
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16	1892	67.0	548	15	US-10-378-168-30
17	1831	64.9	552	10	US-09-838-469-33
18	1831	64.9	552	15	US-10-378-168-33
19	1710.5	60.6	544	10	US-09-838-469-24
20	1710.5	60.6	544	15	US-09-813-2798-2
21	1710.5	60.6	544	10	US-09-813-2798-4
22	1710.5	60.6	544	15	US-10-378-168-24
23	1710.5	60.6	544	15	US-10-378-168-45
24	1710.5	60.6	544	16	US-10-655-878-2
25	1710.5	60.6	544	16	US-10-655-878-4
26	1706.5	60.4	544	15	US-09-813-2798-3
27	1706.5	60.4	544	15	US-10-378-168-44
28	1706.5	60.4	544	16	US-10-655-878-3
29	1676.5	59.4	546	10	US-09-838-469-23
30	1675.5	59.4	544	15	US-10-378-168-23
31	1671.5	59.2	544	10	US-09-838-469-19
32	1671.5	59.2	544	10	US-09-813-2798-1
33	1671.5	59.2	544	15	US-10-378-168-19
34	1671.5	59.2	544	16	US-10-655-878-1
35	1650.5	58.4	544	15	US-10-378-168-22
36	1649.5	58.4	546	10	US-09-838-469-22
37	1647.5	58.4	544	15	US-10-378-168-18
38	1647.5	58.4	546	10	US-09-838-469-18
39	1645.5	58.3	544	15	US-10-378-168-20
40	1645.5	58.3	546	10	US-09-838-469-20
41	1642.5	58.2	544	15	US-10-378-168-15
42	1642.5	58.2	544	15	US-10-378-168-21
43	1642.5	58.2	546	10	US-09-838-469-15
44	1642.5	58.2	546	10	US-09-838-469-21
45	1639.5	58.1	544	15	US-10-378-168-17
46	1639.5	58.1	546	10	US-09-838-469-14
47	1639.5	58.1	546	10	US-09-838-469-17
48	1638.5	58.0	544	15	US-10-378-168-14
49	1638.5	58.0	545	15	US-10-378-168-25
50	1633.5	57.9	544	15	US-10-378-168-16
51	1633.5	57.9	546	10	US-09-838-469-16
52	1632.5	57.8	547	10	US-09-838-469-25
53	1630.5	57.8	545	15	US-10-378-168-37
54	1513.5	53.6	581	10	US-09-838-469-37
55	1457.5	51.6	545	9	US-09-993-874-2
56	1389	49.2	546	14	US-10-223-072-2
57	1389	49.2	546	14	US-10-223-072-4
58	1385	49.1	545	10	US-09-838-469-34
59	1385	49.1	546	15	US-10-378-168-34
60	1367	48.4	542	15	US-10-378-168-47
61	1367	48.4	543	10	US-09-838-469-36
62	1367	48.4	543	15	US-10-378-168-36
63	1365	48.4	544	10	US-09-838-469-26
64	1356	48.0	542	15	US-10-378-168-26
65	1356	48.0	543	10	US-09-838-469-35
66	1356	48.0	543	15	US-10-378-168-35
67	1332	47.2	546	9	US-09-993-874-4
68	767	27.2	546	12	US-10-424-599-222072
69	767	27.2	553	12	US-10-425-114-36657
70	763	27.0	510	15	US-10-369-493-20140
71	761	27.0	506	12	US-10-425-114-55457
72	741	26.2	540	12	US-10-424-599-282926
73	738	26.1	547	12	US-10-424-599-245106
74	733	26.0	549	12	US-10-424-599-239763
75	733	26.0	534	12	US-10-424-599-239763
76	732.5	25.9	535	9	US-09-947-027-10
77	732.5	25.9	535	13	US-10-091-009-10
78	732.5	25.9	535	14	US-10-184-385-2
79	729.5	25.8	561	16	US-10-437-963-105422
80	727	25.8	569	12	US-10-424-599-237811
81	724.5	25.7	575	14	US-10-361-460-3
82	723.5	25.6	540	9	US-09-796-256A-8
83	721.5	25.6	544	14	US-10-174-693-349
84	720	25.5	544	15	US-10-369-493-6433
85	714.5	25.3	526	15	US-10-369-493-12596
86	713	25.3	570	14	US-10-184-385-4
87	712	25.2	524	14	US-10-156-761-11398
88	710	25.2	539	16	US-10-437-963-133157

89 702 24.9 559 14 US-10-289-757-90 Sequence 90, Appl
90 700 24.8 470 12 US-10-425-114-48996 Sequence 48996, A
91 697 24.7 539 14 US-10-289-757-91 Sequence 91, Appl
92 696.5 24.7 555 16 US-10-437-963-196091 Sequence 196091,
93 695.5 24.6 575 14 US-10-174-693-407 Sequence 407, App
94 695 24.6 601 12 US-10-425-114-69253 Sequence 69253, A
95 694 24.6 555 14 US-10-361-460-2 Sequence 2, Appli
96 693.5 24.6 571 16 US-10-437-963-102985 Sequence 102985,
97 685 24.3 551 14 US-10-174-693-348 Sequence 348, App
98 679.5 24.1 565 16 US-10-437-963-140091 Sequence 140091,
99 673 23.8 539 14 US-10-289-757-89 Sequence 89, Appl
100 669 23.7 555 16 US-10-437-963-166762 Sequence 166762,

ALIGNMENTS

RESULT 1
US-09-838-469-28
; Sequence 28, Application US/09838469
; Publication No. US20030068801A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Hall, Mary P.
; APPLICANT: Promega Corporation
; TITLE OF INVENTION: PROMOSTABLE LUCIFERASES AND METHODS OF PRODUCTION
; FILE REFERENCE: 341.006US1
; CURRENT APPLICATION NUMBER: US/09/838,469
; PRIOR FILING DATE: 2001-04-19
; PRIOR APPLICATION NUMBER: US/09/156,946
; PRIOR FILING DATE: 1998-09-18
; SOFTWARE: Patent in Ver. 2.0
; SEQ ID NO 28
; LENGTH: 548
; TYPE: PRT
; ORGANISM: Beetle
US-09-838-469-28

Query Match 99.4%; Score 2805; DB 10; Length 548;
Best Local Similarity 99.3%; Pred. No. 1.7e-263;
Matches 544; Conservative 1; Mismatches 3; Indels 0; Gaps 0;
QY 1 MENMENDENIVGPEPPYPIEBSGAGQALRKYMDRYAKLGAIAFTNALTGVDTYVAYLE 60
DB 1 MENMENDENIVGPEPPYPIEBSGAGQALRKYMDRYAKLGAIAFTNALTGVDTYVAYLE 60
QY 61 KSCCLGALKNYGLVVDGRIALCSECEFFIPVLAGLFIGVGVAPTNEIYTLRELVHSL 120
DB 61 KSCCLGALKNYGLVVDGRIALCSECEFFIPVLAGLFIGVGVAPTNEIYTLRELVHSL 120
QY 121 GISKPTIVFSSKGLDKVITVQKTVAITKTIIVILDSKVDYRGYQSMDFIKKNTPOGFKG 180
DB 121 GISKPTIVFSSKGLDKVITVQKTVAITKTIIVILDSKVDYRGYQSMDFIKKNTPOGFKG 180
QY 181 SSFKTVENRKEQVALIMNSSGSTGLPKGVQVLTENIVTRFSHARDPYIGNOVSPGTAIL 240
DB 181 SSFKTVENRKEQVALIMNSSGSTGLPKGVQVLTENIVTRFSHARDPYIGNOVSPGTAIL 240
QY 241 TVVPFHGFGMFTTGLYTCGFRIVMLTKPDEBFTFLKTDYKCSSVILVPTLFAILNRS 300
DB 241 TVVPFHGFGMFTTGLYTCGFRIVMLTKPDEBFTFLKTDYKCSSVILVPTLFAILNRS 300
QY 301 ELLDKYDLNLVEIASGGAPLSKEIGAVARRNLPGVQVQGLTETTSAILIITPSGDDK 360
DB 301 ELLDKYDLNLVEIASGGAPLSKEIGAVARRNLPGVQVQGLTETTSAILIITPSGDDK 360
QY 361 PGASGKVPLFKAKVIDLDTKTLGNRRGEVCVKGPMLMKGYVDNPEATREIIDEEGWL 420
DB 361 PGASGKVPLFKAKVIDLDTKTLGNRRGEVCVKGPMLMKGYVDNPEATREIIDEEGWL 420
QY 421 HTGDIGYDEBEKHEFFIVDRKLSLIKYGQVPPAELESVLLQHNIFDAGVAGVDPPIAG 480

DB 421 HTGDIGYDEBEKHEFFIVDRKLSLIKYGQVPPAELESVLLQHNIFDAGVAGVDPPIAG 480
QY 481 ELPQAVVVLKKGKMTKEVMDYVASQVSNAKRLRGGRVDFVDEVPKGLTGKIDGKAIREI 540
DB 481 ELPQAVVVLKKGKMTKEVMDYVASQVSNAKRLRGGRVDFVDEVPKGLTGKIDGKAIREI 540
QY 541 LKKPVAKM 548
DB 541 LKKPVAKM 548
RESULT 2
US-10-378-168-28
; Sequence 28, Application US/10378168
; Publication No. US20030232404A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Hall, Mary P.
; TITLE OF INVENTION: Thermostable luciferases and methods of
; FILE REFERENCE: 341.012US1
; CURRENT APPLICATION NUMBER: US/10/378,168
; CURRENT FILING DATE: 2003-02-28
; PRIOR APPLICATION NUMBER: US/09/396,154
; PRIOR FILING DATE: 1999-09-15
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 09/156,946
; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: PCT/US98/19494
; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 60/059,379
; PRIOR FILING DATE: EARLIER FILING DATE: 1997-09-19
; NUMBER OF SEQ ID NOS: 93
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 28
; LENGTH: 548
; TYPE: PRT
; ORGANISM: Luciola lateralis
US-10-378-168-28

Query Match 99.4%; Score 2805; DB 15; Length 548;
Best Local Similarity 99.3%; Pred. No. 1.7e-263;
Matches 544; Conservative 1; Mismatches 3; Indels 0; Gaps 0;
QY 1 MENMENDENIVGPEPPYPIEBSGAGQALRKYMDRYAKLGAIAFTNALTGVDTYVAYLE 60
DB 1 MENMENDENIVGPEPPYPIEBSGAGQALRKYMDRYAKLGAIAFTNALTGVDTYVAYLE 60
QY 61 KSCCLGALKNYGLVVDGRIALCSECEFFIPVLAGLFIGVGVAPTNEIYTLRELVHSL 120
DB 61 KSCCLGALKNYGLVVDGRIALCSECEFFIPVLAGLFIGVGVAPTNEIYTLRELVHSL 120
QY 121 GISKPTIVFSSKGLDKVITVQKTVAITKTIIVILDSKVDYRGYQSMDFIKKNTPOGFKG 180
DB 121 GISKPTIVFSSKGLDKVITVQKTVAITKTIIVILDSKVDYRGYQSMDFIKKNTPOGFKG 180
QY 181 SSFKTVENRKEQVALIMNSSGSTGLPKGVQVLTENIVTRFSHARDPYIGNOVSPGTAIL 240
DB 181 SSFKTVENRKEQVALIMNSSGSTGLPKGVQVLTENIVTRFSHARDPYIGNOVSPGTAIL 240
QY 241 TVVPFHGFGMFTTGLYTCGFRIVMLTKPDEBFTFLKTDYKCSSVILVPTLFAILNRS 300
DB 241 TVVPFHGFGMFTTGLYTCGFRIVMLTKPDEBFTFLKTDYKCSSVILVPTLFAILNRS 300
QY 301 ELLDKYDLNLVEIASGGAPLSKEIGAVARRNLPGVQVQGLTETTSAILIITPSGDDK 360
DB 301 ELLDKYDLNLVEIASGGAPLSKEIGAVARRNLPGVQVQGLTETTSAILIITPSGDDK 360
QY 361 PGASGKVPLFKAKVIDLDTKTLGNRRGEVCVKGPMLMKGYVDNPEATREIIDEEGWL 420
DB 361 PGASGKVPLFKAKVIDLDTKTLGNRRGEVCVKGPMLMKGYVDNPEATREIIDEEGWL 420
QY 421 HTGDIGYDEBEKHEFFIVDRKLSLIKYGQVPPAELESVLLQHNIFDAGVAGVDPPIAG 480

Db 421 HTGDIYGYDEEKHFFIVDRKSLIKYKGYQVPPAELESVLLQHPNIFDAGVAGVDPPIAG 480
Qy 481 ELPAGVAVVLLKKGKSMTEKEVMDYVASQVSNAKRLGGVRFVDEVPKGLTGKIDGKAIREI 540
Db 481 ELPAGVAVVLEKKGSMTEKEVMDYVASQVSNAKRLGGVRFVDEVPKGLTGKIDGKAIREI 540
Qy 541 LKKPVAKM 548
Db 541 LKKPVAKM 548

RESULT 3
US-09-838-469-27
; Sequence 27, Application US/09838469
; Publication No. US2003068801A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Hall, Mary P.
; TITLE OF INVENTION: THERMOSTABLE LUCIFERASES AND METHODS OF PRODUCTION
; FILE REFERENCE: 341.00GUS1
; CURRENT APPLICATION NUMBER: US/09/838,469
; CURRENT FILING DATE: 2001-04-19
; PRIOR APPLICATION NUMBER: US/09/156,946
; PRIOR FILING DATE: 1998-09-18
; NUMBER OF SEQ ID NOS: 41
; SOFTWARE: Patent in Ver. 2.0
; SEQ ID NO 27
; LENGTH: 548
; TYPE: PRT
; ORGANISM: Beetle
US-09-838-469-27

Query Match 95.1%; Score 2684; DB 10; Length 548;
Best Local Similarity 93.4%; Pred. No. 1e-251;
Matches 512; Conservative 26; Mismatches 10; Indels 0; Gaps 0;
Qy 1 MENMENDENIVGPEPFPIEBSAGAQLRKYMRYAKLGAIAFTNALTGVDTYVAEYLE 60
Db 1 MENMENDENIVGPKPFPIEBSAGTQLRKYERYAKLGAIAFTNAVTVGVDYSVAEYLE 60
Qy 61 KSCCLGKALQNYGLVVDGRIALCSENCEEFFIPVLAGLFIGVGVAPTNIEIYTLRELHVSL 120
Db 61 KSCCLGKALQNYGLVVDGRIALCSENCEEFFIPVLAGLFIGVGVAPTNIEIYTLRELHVSL 120
Qy 121 GISKPTIVFSSKKGLDKVITVQKTVTAKTIVILDSKVDYRGVQSMDFIKKNTPPGFG 180
Db 121 GISKPTIVFSSKKGLDKVITVQKTVTAKTIVILDSKVDYRGVQSMDFIKKNTPPGFG 180
Qy 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHTENIVTRFSHARDPIYGNQVSPGTAL 240
Db 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHTENIVTRFSHARDPIYGNQVSPGTAL 240
Qy 241 TVVPFHGFGMFTTLGYLTCGFRIVMLTKPDEETFLKTLQDYKCSVILVPTLFAILNRS 300
Db 241 TVVPFHGFGMFTTLGYLTCGFRIVMLTKPDEETFLKTLQDYKCSVILVPTLFAILNRS 300
Qy 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAVARRNFLPGVRQGYGLTETTSALITPEGDDK 360
Db 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAVARRNFLPGVRQGYGLTETTSALITPEGDDK 360
Qy 361 PGASGVVPLFKAKVIDLDTKTKLGNRRGEVCVKGPMLKMGVYNNPEATKELIDEGWL 420
Db 361 PGASGVVPLFKAKVIDLDTKTKLGNRRGEVCVKGPMLKMGVYNNPEATKELIDEGWL 420
Qy 421 HTGDIYGYDEEKHFFIVDRKSLIKYKGYQVPPAELESVLLQHPNIFDAGVAGVDPPIAG 480
Db 421 HTGDIYGYDEEKHFFIVDRKSLIKYKGYQVPPAELESVLLQHPNIFDAGVAGVDPPIAG 480
Qy 481 ELPAGVAVVLLKKGKSMTEKEVMDYVASQVSNAKRLGGVRFVDEVPKGLTGKIDGKAIREI 540
Db 481 ELPAGVAVVLEKKGKSMTEKEVMDYVASQVSNAKRLGGVRFVDEVPKGLTGKIDGKAIREI 540

Qy 541 LKKPVAKM 548
Db 541 LKKPVAKM 548
RESULT 4
US-10-378-168-27
; Sequence 27, Application US/10378168
; Publication No. US2003023240A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Hall, Mary P.
; TITLE OF INVENTION: Thermostable luciferases and methods of
; TITLE OF INVENTION: production
; FILE REFERENCE: 341.012US1
; CURRENT APPLICATION NUMBER: US/10/378,168
; CURRENT FILING DATE: 2003-02-28
; PRIOR APPLICATION NUMBER: US/09/396,154
; PRIOR FILING DATE: 1999-09-15
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 09/156,946
; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: PCT/US98/19494
; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 60/059,379
; PRIOR FILING DATE: EARLIER FILING DATE: 1997-09-19
; NUMBER OF SEQ ID NOS: 93
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 27
; LENGTH: 548
; TYPE: PRT
; ORGANISM: Luciola cruciata
US-10-378-168-27

Query Match 95.1%; Score 2684; DB 15; Length 548;
Best Local Similarity 93.4%; Pred. No. 1e-251;
Matches 512; Conservative 26; Mismatches 10; Indels 0; Gaps 0;
Qy 1 MENMENDENIVGPEPFPIEBSAGAQLRKYMRYAKLGAIAFTNALTGVDTYVAEYLE 60
Db 1 MENMENDENIVGPKPFPIEBSAGTQLRKYERYAKLGAIAFTNAVTVGVDYSVAEYLE 60
Qy 61 KSCCLGKALQNYGLVVDGRIALCSENCEEFFIPVLAGLFIGVGVAPTNIEIYTLRELHVSL 120
Db 61 KSCCLGKALQNYGLVVDGRIALCSENCEEFFIPVLAGLFIGVGVAPTNIEIYTLRELHVSL 120
Qy 121 GISKPTIVFSSKKGLDKVITVQKTVTAKTIVILDSKVDYRGVQSMDFIKKNTPPGFG 180
Db 121 GISKPTIVFSSKKGLDKVITVQKTVTAKTIVILDSKVDYRGVQSMDFIKKNTPPGFG 180
Qy 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHTENIVTRFSHARDPIYGNQVSPGTAL 240
Db 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHTENIVTRFSHARDPIYGNQVSPGTAL 240
Qy 241 TVVPFHGFGMFTTLGYLTCGFRIVMLTKPDEETFLKTLQDYKCSVILVPTLFAILNRS 300
Db 241 TVVPFHGFGMFTTLGYLTCGFRIVMLTKPDEETFLKTLQDYKCSVILVPTLFAILNRS 300
Qy 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAVARRNFLPGVRQGYGLTETTSALITPEGDDK 360
Db 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAVARRNFLPGVRQGYGLTETTSALITPEGDDK 360
Qy 361 PGASGVVPLFKAKVIDLDTKTKLGNRRGEVCVKGPMLKMGVYNNPEATKELIDEGWL 420
Db 361 PGASGVVPLFKAKVIDLDTKTKLGNRRGEVCVKGPMLKMGVYNNPEATKELIDEGWL 420
Qy 421 HTGDIYGYDEEKHFFIVDRKSLIKYKGYQVPPAELESVLLQHPNIFDAGVAGVDPPIAG 480
Db 421 HTGDIYGYDEEKHFFIVDRKSLIKYKGYQVPPAELESVLLQHPNIFDAGVAGVDPPIAG 480
Qy 481 ELPAGVAVVLLKKGKSMTEKEVMDYVASQVSNAKRLGGVRFVDEVPKGLTGKIDGKAIREI 540
Db 481 ELPAGVAVVLEKKGKSMTEKEVMDYVASQVSNAKRLGGVRFVDEVPKGLTGKIDGKAIREI 540

QY 541 LKPVAKM 548

Db 541 LKPVAKM 548

RESULT 5

US-09-838-469-29
; Sequence 29, Application US/09838469
; Publication No. US20030068801A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Hall, Mary P.
; APPLICANT: Promega Corporation
; TITLE OF INVENTION: THERMOSTABLE LUCIFERASES AND METHODS OF PRODUCTION
; FILE REFERENCE: 341.006US1
; CURRENT APPLICATION NUMBER: US/09/838,469
; PRIOR FILING DATE: 2001-04-19
; PRIOR APPLICATION NUMBER: US/09/156,946
; PRIOR FILING DATE: 1998-09-18
; NUMBER OF SEQ ID NOS: 41
; SOFTWARE: Patentin ver. 2.0
; SEQ ID NO 29
; LENGTH: 548
; TYPE: PRT
; ORGANISM: Beetle
US-09-838-469-29

Query Match 82.7%; Score 2335.5; DB 10; Length 548;
Best Local Similarity 81.7%; Pred. No. 8.2e-218;
Matches 446; Conservative 47; Mismatches 52; Indels 1; Gaps 1;

QY	4	MENDENIVVGPPEPYPIEESGAGALRKYMDRYAKLGAFTNALTGVDTYAEYLEKSC	63
Db	3	MEKEENVVGYPLFPYPIEESAGIQLHKYMHQYAKLGAFTNALTGVDTISQYEDITC	62
QY	64	CLGELKNYGLVVDGRIALCSENCEBFFIPVLAGLFGVGVAPTNIYTLRELVHSLGTS	123
Db	63	RLAEMKNFGKPEEHIALCSENCEBFFIPVLAGLYGVAVAPTNIYTLRELHNSLGA	122
QY	124	KPTIVFSSKGLDKVITVQKTVTAITVILDSKVYRGVQSMDFIKKNTQGEKGSF	183
Db	123	OPTIVFSSRKLGPKEVQKTVTCIKKIVILDSKVNFGGHCMEETFKKHVELGFQPSF	182
QY	184	KTVEV-NRKEQVALIMNSSGSTGLPKGVQLTHENIVTRFSHARDPIYGNQVSPGTALT	242
Db	183	VPIDVKNRKQHVALLMNSSGSTGLPKGVRITHEGAVTRFSHAKDPIYGNQVSPGTALT	242
QY	243	VPHHGFQMTTGLYTCGPRIVMLTKFDEBETFLKLDYKCSSVILVPTLFAILNRSEL	302
Db	243	VPHHGFQMTTGLYFACGYRVVMLTKFDEELFLRLTDYKCTSVILVPTLFAILNKSEL	302
QY	303	LDKYDLSNLVEIASGGAPLSKEICEAVARRFNLPGVRQGYGLTETTSALIIITPEGDDKPG	362
Db	303	IDKFDLSNLTEIASGGAPLAKEVGEAVARRFNLPGVRQGYGLTETTSALIIITPEGDDKPG	362
QY	363	ASGVKVPFLPAKVIDLDTKTLGNRRGEVCVKGPMLMKGYVDNPEATREIIDEGWLHT	422
Db	363	ASGVKVPFLPKVIDLDTKTLGNRRGEICVKGPSLMLGYNNPEATRETTIDEGWLHT	422
QY	423	GDIGYDDEKHFFIVDRLSLKIYKGYQVPPAELESVLLQHPNIFDAGVAGVDPDPAGEL	482
Db	423	GDIGYDDEHFFIVDRLSLKIYKGYQVPPAELESVLLQHPNIFDAGVAGVDPDPAGEL	482
QY	483	PGAVVVLKKGKSMTEKEVMDYVASQVSNKRLRGVRFVDEVPKGLTGKIDGKAIRILK	542
Db	483	PGAVVVMKGTWTEKEIVDYVNSQVNVNKRRLRGVRFVDEVPKGLTGKIDAKVIREILK	542
QY	543	KPVAKM 548	
Db	543	KPVAKM 548	

RESULT 6

US-10-378-168-29
; Sequence 29, Application US/10378168
; Publication No. US20030232404A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Hall, Mary P.

; TITLE OF INVENTION: Thermostable luciferases and methods of
; FILE REFERENCE: 341.012US1
; CURRENT APPLICATION NUMBER: US/10/378,168
; CURRENT FILING DATE: 2003-02-28
; PRIOR APPLICATION NUMBER: US/09/396,154
; PRIOR FILING DATE: 1999-09-15
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 09/156,946
; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: PCT/US98/19494
; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 60/059,379
; PRIOR FILING DATE: EARLIER FILING DATE: 1997-09-19
; NUMBER OF SEQ ID NOS: 93
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 29
; LENGTH: 548
; TYPE: PRT
; ORGANISM: Luciola mingrellica
US-10-378-168-29

Query Match 82.7%; Score 2335.5; DB 15; Length 548;
Best Local Similarity 81.7%; Pred. No. 8.2e-218;
Matches 446; Conservative 47; Mismatches 52; Indels 1; Gaps 1;

QY	4	MENDENIVVGPPEPYPIEESGAGALRKYMDRYAKLGAFTNALTGVDTYAEYLEKSC	63
Db	3	MEKEENVVGYPLFPYPIEESAGIQLHKYMHQYAKLGAFTNALTGVDTISQYEDITC	62
QY	64	CLGELKNYGLVVDGRIALCSENCEBFFIPVLAGLFGVGVAPTNIYTLRELVHSLGTS	123
Db	63	RLAEMKNFGKPEEHIALCSENCEBFFIPVLAGLYGVAVAPTNIYTLRELHNSLGA	122
QY	124	KPTIVFSSKGLDKVITVQKTVTAITVILDSKVYRGVQSMDFIKKNTQGEKGSF	183
Db	123	OPTIVFSSRKLGPKEVQKTVTCIKKIVILDSKVNFGGHCMEETFKKHVELGFQPSF	182
QY	184	KTVEV-NRKEQVALIMNSSGSTGLPKGVQLTHENIVTRFSHARDPIYGNQVSPGTALT	242
Db	183	VPIDVKNRKQHVALLMNSSGSTGLPKGVRITHEGAVTRFSHAKDPIYGNQVSPGTALT	242
QY	243	VPHHGFQMTTGLYTCGPRIVMLTKFDEBETFLKLDYKCSSVILVPTLFAILNRSEL	302
Db	243	VPHHGFQMTTGLYFACGYRVVMLTKFDEELFLRLTDYKCTSVILVPTLFAILNKSEL	302
QY	303	LDKYDLSNLVEIASGGAPLSKEICEAVARRFNLPGVRQGYGLTETTSALIIITPEGDDKPG	362
Db	303	IDKFDLSNLTEIASGGAPLAKEVGEAVARRFNLPGVRQGYGLTETTSALIIITPEGDDKPG	362
QY	363	ASGVKVPFLPAKVIDLDTKTLGNRRGEVCVKGPMLMKGYVDNPEATREIIDEGWLHT	422
Db	363	ASGVKVPFLPKVIDLDTKTLGNRRGEICVKGPSLMLGYNNPEATRETTIDEGWLHT	422
QY	423	GDIGYDDEKHFFIVDRLSLKIYKGYQVPPAELESVLLQHPNIFDAGVAGVDPDPAGEL	482
Db	423	GDIGYDDEHFFIVDRLSLKIYKGYQVPPAELESVLLQHPNIFDAGVAGVDPDPAGEL	482
QY	483	PGAVVVLKKGKSMTEKEVMDYVASQVSNKRLRGVRFVDEVPKGLTGKIDGKAIRILK	542
Db	483	PGAVVVMKGTWTEKEIVDYVNSQVNVNKRRLRGVRFVDEVPKGLTGKIDAKVIREILK	542
QY	543	KPVAKM 548	
Db	543	KPVAKM 548	

RESULT 7

US-09-838-469-32
; Sequence 32, Application US/09838469
; Publication No. US2003068801A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Hall, Mary P.
; APPLICANT: Promega Corporation
; TITLE OF INVENTION: THERMOSTABLE LUCIFERASES AND METHODS OF PRODUCTION
; FILE REFERENCE: 341.006US1
; CURRENT APPLICATION NUMBER: US/09/838,469
; PRIOR FILING DATE: 2001-04-19
; PRIOR APPLICATION NUMBER: US/09/156,946
; PRIOR FILING DATE: 1998-09-18
; NUMBER OF SEQ ID NOS: 41
; SOFTWARE: Patentin Ver. 2.0
; SEQ ID NO 32
; LENGTH: 547
; TYPE: PRT
; ORGANISM: Beetle
US-09-838-469-32

Query Match 69.7%; Score 1967.5; DB 10; Length 547;
Best Local Similarity 69.0%; Pred. No. 5.3e-182;
Matches 372; Conservative 76; Mismatches 90; Indels 1; Gaps 1;

QY 4 MENDENIVGPPPIEBSAGALRYKMDRYAKL-GAIAFTNALTGVDVYAEVLEKS 62
DB 1 MEDAKNIMHGPAFFPLEDGTAGEQJHKAKRYAQVPGTIAFDAEAVNITYSYFEMA 60

QY 63 CCLGEALKNYGLVVDGRIALCSECEFFIPVLAGLFIGVGVAPTNEIYTLRELVHSLGI 122
DB 61 CRLAETMKRYGLQGHIAVCSSENSLOFPMPVCGALFIGVGVASTNDIYNERELYNLSI 120

QY 123 SKPTIVFSSKGLDKVITVQKTTAIIIVILDSKVDYRGYQSMDFIKKNTPOGFKGSS 182
DB 121 SQPTIVSCSKRALQKILGVQKLPPIQKIVILDSREDYMGKQSMYSFIESHLFAGFNEYD 180

QY 183 FKTVEVNRKQVALIMNSSGSTGLPKGVOLTHENIVTRFSHARDPIYGNVSPGTAILTV 242
DB 181 YIPDSFRETATALIMNSSGSTGLPKGVOLTHQNCVRFHCHRDVFGNQIIPDTAILTV 240

QY 243 VPFHFGFMFTTLGYLTCGFRIVMLTKFDEETFKLQDYKSSVILVPTLFAILNRSEL 302
DB 241 IPFHFGFMFTTLGYLTCGFRIVMLYRFEELFLRSLOQYKIQSALLVPTLFSFAKSTL 300

QY 303 LDKYDLSNLVEIASGGAPLSKEIGEAVARBNLPGRVQGYGLTETTSAILIITPEGDDKPG 362
DB 301 VKYDLSNLHEIASGGAPLAKEVGEAVAKRFKLPGRVQGYGLTETTSAILIITPEGDDKPG 360

QY 363 ASGKVVPFLKAKVIDLDTKTLGPNRRGEVCVKGPMLKGYVDNPEATRIIIDEGLWHT 422
DB 361 ACQKVVPFSAKIVDLDTGKTLGVNQRGELCVKGPMLKGYVNNPEATSALIDKDWLHS 420

QY 423 GDIGYVDEEKHFIVDRKLSLIKYGQVPPAELESVLLQHPNIFDAGVAGVDPDPIAGEL 482
DB 421 GDIAAYDKDGHFFIVDRKLSLIKYGQVPPAELESVLLQHPNIFDAGVAGVDPDPIAGEL 480

QY 483 PGAVVVLKKGKSMTEKEVMDYVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREIL 541
DB 481 PAAVVVLEEGKMTQEVMDYVAGQVTSKRLRGVRFVDEVPKGLTGKIDGKAIREIL 539

RESULT 8
US-10-378-168-32
; Sequence 32, Application US/10378168
; Publication No. US2003023240A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Hall, Mary P.
; TITLE OF INVENTION: Thermostable luciferases and methods of
; FILE REFERENCE: 341.012US1
; CURRENT APPLICATION NUMBER: US/10/378,168

CURRENT FILING DATE: 2003-02-28
; PRIOR APPLICATION NUMBER: US/09/396,154
; PRIOR FILING DATE: 1999-09-15
; PRIOR APPLICATION NUMBER: EARLIER FILING DATE: 1998-09-18
; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: EARLIER FILING DATE: 1998-09-18
; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: EARLIER FILING DATE: 1997-09-19
; NUMBER OF SEQ ID NOS: 93
; SOFTWARE: FastSEQ for Windows Version 3.0
; SEQ ID NO 32
; LENGTH: 547
; TYPE: PRT
; ORGANISM: Lampyris noctiluca
US-10-378-168-32

Query Match 69.7%; Score 1967.5; DB 15; Length 547;
Best Local Similarity 69.0%; Pred. No. 5.3e-182;
Matches 372; Conservative 76; Mismatches 90; Indels 1; Gaps 1;

QY 4 MENDENIVGPPPIEBSAGALRYKMDRYAKL-GAIAFTNALTGVDVYAEVLEKS 62
DB 1 MEDAKNIMHGPAFFPLEDGTAGEQJHKAKRYAQVPGTIAFDAEAVNITYSYFEMA 60

QY 63 CCLGEALKNYGLVVDGRIALCSECEFFIPVLAGLFIGVGVAPTNEIYTLRELVHSLGI 122
DB 61 CRLAETMKRYGLQGHIAVCSSENSLOFPMPVCGALFIGVGVASTNDIYNERELYNLSI 120

QY 123 SKPTIVFSSKGLDKVITVQKTTAIIIVILDSKVDYRGYQSMDFIKKNTPOGFKGSS 182
DB 121 SQPTIVSCSKRALQKILGVQKLPPIQKIVILDSREDYMGKQSMYSFIESHLFAGFNEYD 180

QY 183 FKTVEVNRKQVALIMNSSGSTGLPKGVOLTHENIVTRFSHARDPIYGNVSPGTAILTV 242
DB 181 YIPDSFRETATALIMNSSGSTGLPKGVOLTHQNCVRFHCHRDVFGNQIIPDTAILTV 240

QY 243 VPFHFGFMFTTLGYLTCGFRIVMLTKFDEETFKLQDYKSSVILVPTLFAILNRSEL 302
DB 241 IPFHFGFMFTTLGYLTCGFRIVMLYRFEELFLRSLOQYKIQSALLVPTLFSFAKSTL 300

QY 303 LDKYDLSNLVEIASGGAPLSKEIGEAVARBNLPGRVQGYGLTETTSAILIITPEGDDKPG 362
DB 301 VKYDLSNLHEIASGGAPLAKEVGEAVAKRFKLPGRVQGYGLTETTSAILIITPEGDDKPG 360

QY 363 ASGKVVPFLKAKVIDLDTKTLGPNRRGEVCVKGPMLKGYVDNPEATRIIIDEGLWHT 422
DB 361 ACQKVVPFSAKIVDLDTGKTLGVNQRGELCVKGPMLKGYVNNPEATSALIDKDWLHS 420

QY 423 GDIGYVDEEKHFIVDRKLSLIKYGQVPPAELESVLLQHPNIFDAGVAGVDPDPIAGEL 482
DB 421 GDIAAYDKDGHFFIVDRKLSLIKYGQVPPAELESVLLQHPNIFDAGVAGVDPDPIAGEL 480

QY 483 PGAVVVLKKGKSMTEKEVMDYVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREIL 541
DB 481 PAAVVVLEEGKMTQEVMDYVAGQVTSKRLRGVRFVDEVPKGLTGKIDGKAIREIL 539

RESULT 9
US-10-072-012-329
; Sequence 329, Application US/10072012
; Publication No. US20040033493A1
; GENERAL INFORMATION:
; APPLICANT: Tchernev, Velizar
; APPLICANT: Spytek, Kimberly
; APPLICANT: Zerhusen, Bryan
; APPLICANT: Patturajan, Meera
; APPLICANT: Shimkets, Richard
; APPLICANT: Li, Li
; APPLICANT: Gangolli, Esha
; APPLICANT: Padigaru, Muralidhara
; APPLICANT: Anderson, David W.
; APPLICANT: Rastelli, Luca

APPLICANT: Miller, Charles E.
APPLICANT: Gerlach, Valerie
APPLICANT: Taupier Jr, Raymond J.
APPLICANT: Gusev, Vladimir Y.
APPLICANT: Colman, Steven D.
APPLICANT: Wolenc, Adam R.
APPLICANT: Pena, Carol E. A
APPLICANT: Furtak, Katarzyna
APPLICANT: Grosse, William M.
APPLICANT: Alsobrook II, John P.
APPLICANT: Lepley, Denise M.
APPLICANT: Rieger, Daniel K.
APPLICANT: Burgess, Catherine E.
TITLE OF INVENTION: Proteins and Nucleic Acids Encoding Same
FILE REFERENCE: 21402-258
CURRENT APPLICATION NUMBER: US/10/072,012
CURRENT FILING DATE: 2002-01-31
PRIOR APPLICATION NUMBER: 60/265,102
PRIOR FILING DATE: 2001-01-30
PRIOR APPLICATION NUMBER: 60/265,514
PRIOR FILING DATE: 2001-01-31
PRIOR APPLICATION NUMBER: 60/265,517
PRIOR FILING DATE: 2001-01-31
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR FILING DATE: 2001-01-31
PRIOR APPLICATION NUMBER: 60/265,395
PRIOR FILING DATE: 2001-01-31
PRIOR APPLICATION NUMBER: 60/266,406
PRIOR FILING DATE: 2001-02-02
PRIOR APPLICATION NUMBER: 60/266,767
PRIOR FILING DATE: 2001-02-05
PRIOR APPLICATION NUMBER: 60/267,057
PRIOR FILING DATE: 2001-02-07
PRIOR APPLICATION NUMBER: 60/266,975
PRIOR FILING DATE: 2001-02-07
PRIOR APPLICATION NUMBER: 60/267,459
PRIOR FILING DATE: 2001-02-08
Remaining Prior Application data removed - See File Wrapper or PALM.
NUMBER OF SEQ ID NOS: 1391
SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 329
LENGTH: 975
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Description of Artificial Sequence: Synthetic Construct
US-10-072-012-329

Query Match 69.3%; Score 1956.5; DB 12; Length 975;
Best Local Similarity 68.6%; Pred. No. 1.6e-180;
Matches 371; Conservative 74; Mismatches 95; Indels 1; Gaps 1;
QY 4 MENDENIVGPPFPYPIEGSAGAQURKYMRYAKL-GAIAETNALTGVDYTYAEYLEKS 62
DB 426 MEDAKNIKGPPAPFPYPLEDTAGEQLHKAMKRYALVPGTIAFTDAHIEVDITYASYFEMS 485
QY 63 CCLGEALKNYGLVVDGRIALCSENCEFFPIPVLAGLFIGVGVPAPNEIYTLRELVHSLGI 122
DB 486 VRLAEAMKRYGLNTHNRIIVVCSSENSIQFPMVPGALFIGVAVAPANDIYNERELNSMGI 545
QY 123 SKPTIVFSSKGLDKVITVQKTVAITKIVILDSKVDYRGYQSDMNFKNKTPQGFKSS 182
DB 546 SQPTVTVFVSKGGLQKILNQKLPPIQKIIIMDSKTDYQGFQSMYTFVTSHPGFEYD 605
QY 183 FKTVEVNRKEQVALINWSSGSLGPKGVOLTHENIVTREFSHARDPIYGNQVSPGTAITLV 242
DB 606 FVPESEDRDKTIALINWSSGSLGPKGVOLPHRTACVREFSHARDPIFGNIIIPDTAILSV 665
QY 243 VPPHFGFMTTLGYLTCGFRIVMLTKFDEETFLKTDQKSSVILVPTLPAINRSEL 302
DB 666 VPPHFGFMTTLGYLTCGFRIVMLYRFEELFLRSLODKYIQSALLVPTLFPFAKSTL 725

QY 303 LDKYDLSNLVEIASGAPLSKEIGEAVARRFNLPVQRGYGLTETTSAILITPEGDGKPG 362
DB 726 IDKYDLSNLHEIASGAPLSKEIGEAVAKRFLPLGRQGYGLTETTSAILITPEGDGKPG 785
QY 363 ASGVKVPFLFAKVILDTKTLGNRRGEVGVGPMKMGYVNDPENTREIIDEGLWHT 422
DB 786 AVGVVPPFFFAKVVDLDTGTLGVNQRGELCVGPMISGYVANNPEATNALIDKDGRLHS 845
QY 423 GDIGYDEEKHFFIVDRKLSLIIKYGVQVPPAELESVLLQHPNIFDAGVAGVDPDTAGEL 482
DB 846 GDIAWDEDEHFFIVDRKLSLIIKYGVQVAPAELESILLQHPNIFDAGVAGLDDAGEL 905
QY 483 PGAVVILKKGSMTEKEMVYASQVSNKRLRGVRFVDEVKGLTGKIDGKAIRILK 542
DB 906 PAAVVLLEHGKTMTEKEIVDVASQVTTAKLRGGVVDEVKGLTGKIDKARKIREILI 965
QY 543 K 543
DB 966 K 966
RESULT 10
US-10-348-074-47
Sequence 47, Application US/10348074
Publication No. US20030176386A1
GENERAL INFORMATION:
APPLICANT: Morphotek Inc.
APPLICANT: Grasso, Luigi
APPLICANT: Kline, J. Bradford
APPLICANT: Nicolaides, Nicholas C.
APPLICANT: Sasse, Philip M.
TITLE OF INVENTION: Method for Generating Engineered Cells for Locus Specific Gene
TITLE OF INVENTION: Regulation and Analysis
FILE REFERENCE: MG0003 US (MOR-0140)
CURRENT APPLICATION NUMBER: US/10/348,074
CURRENT FILING DATE: 2003-01-17
PRIOR APPLICATION NUMBER: 60/349,565
PRIOR FILING DATE: 2002-01-18
NUMBER OF SEQ ID NOS: 47
SOFTWARE: PatentIn version 3.2
SEQ ID NO 47
LENGTH: 895
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Chimera: Luc from Photinus pyralis; HVG from Escherichia coli
US-10-348-074-47

Query Match 69.1%; Score 1951.5; DB 14; Length 895;
Best Local Similarity 68.3%; Pred. No. 4.3e-180;
Matches 370; Conservative 75; Mismatches 96; Indels 1; Gaps 1;
QY 3 NMENDENIVGPPFPYPIEGSAGAQURKYMRYAKL-GAIAETNALTGVDYTYAEYLEK 61
DB 345 NMEDAKNIKGPPAPFPYPLEDTAGEQLHKAMKRYALVPGTIAFTDAHIEVDITYASYFEM 404
QY 62 CCLGEALKNYGLVVDGRIALCSENCEFFPIPVLAGLFIGVGVPAPNEIYTLRELVHSLG 121
DB 405 SVRLAEAMKRYGLNTHNRIIVVCSSENSIQFPMVPGALFIGVAVAPANDIYNERELNSMN 464
QY 122 SKPTIVFSSKGLDKVITVQKTVAITKIVILDSKVDYRGYQSDMNFKNKTPQGFKGS 191
DB 465 ISQPTVTVFVSKGGLQKILNQKLPPIQKIIIMDSKTDYQGFQSMYTFVTSHPGFEY 524
QY 182 FKTVEVNRKEQVALINWSSGSLGPKGVOLTHENIVTREFSHARDPIYGNQVSPGTAITLV 241
DB 525 FVPESEDRDKTIALINWSSGSLGPKGVOLPHRTACVREFSHARDPIFGNIIIPDTAILSV 594
QY 242 VPPHFGFMTTLGYLTCGFRIVMLTKFDEETFLKTDQKSSVILVPTLPAINRSE 301
DB 585 VPPHFGFMTTLGYLTCGFRIVMLYRFEELFLRSLODKYIQSALLVPTLFPFAKST 644
QY 302 LDKYDLSNLVEIASGAPLSKEIGEAVARRFNLPVQRGYGLTETTSAILITPEGDGKPG 361

Db 645 LIDYDLSNLHEIASGAPLSKEVAVAKRPHLPGRQGYGLTETTSAILITPEGDDRP 704
QY 362 GASGVVPLPKAKVIDLTKTLGNRRGVECVKGMPLMKGYVNDPEATREIIDEGLWLR 421
Db 705 GAVGVVPPFEAKVVDLTKTLGNQRGELCVRGPMIMSGYVNNPEATNALIDKDWLH 764
QY 422 TGDIGYDEKHFPIVDRLKSLIKYGYOVPPAELESVLLQHPNIFDAGVAGVPDPPIAGE 481
Db 765 SGDIANWDEDEHFIIVDRILKSLIKYGYQVAPAELESILLOHPNIFDAGVAGLPDDAGE 824
QY 482 LPGAUVVLKKGKSMTEKEVMDYVASQVSNAKRLRGGRVDFVDPKGLTKIDGKAIREIL 541
Db 825 LPAUVVVLHGKTMTEKEIVDYVASQVTTAKLRLGGVWFVDEVPKGLTKIDKARKIREIL 884
QY 542 KK 543
Db 885 IK 886

RESULT 11
US-09-838-469-31
; Sequence 31, Application US/09838469
; Publication No. US20030068801A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Hall, Mary P.
; APPLICANT: Promega Corporation
; TITLE OF INVENTION: THERMOSTABLE LUCIFERASES AND METHODS OF PRODUCTION
; FILE REFERENCE: 341.006US1
; CURRENT APPLICATION NUMBER: US/09/838,469
; CURRENT FILING DATE: 2001-04-19
; PRIOR APPLICATION NUMBER: US/09/156,946
; PRIOR FILING DATE: 1998-09-18
; NUMBER OF SEQ ID NOS: 41
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 31
; TYPE: PRT
; ORGANISM: Beetle
US-09-838-469-31

Query Match 68.9%; Score 1945.5; DB 10; Length 550;
Best Local Similarity 68.2%; Pred. No. 7.3e-180;
Matches 369; Conservative 75; Mismatches 96; Indels 1; Gaps 1;
QY 4 MENDENIVGPEPFYPIEGSAGALRYKMYMDRYAKL-GAIAFTNALTGVDYTYAEYLEKS 62
Db 1 MEDAKNIKKGPAPPYPLEDGTAGEQLHKAMKRYALVPGTIAFTDAHIEVNITYAEYFEMS 60
QY 63 CCLGEALKNVGLVVDGRIALCSENCEEFFIPVLGALFIGVGVAPTNEIYTLRELVHSLGI 122
Db 61 VRLAEAMKRYGLNTHRIIVVCSNSLQFFMPVLGALFIGVAVAPANDIYNERELLSMNI 120
QY 123 SKPTIVFSSKKGLDKVITVQKTVTAIKTIVILDSKVDYRGVQSMDFIKKNTPOGFGKSS 182
Db 121 SQPTVVFVSKKGLQKILNVQKLPITQKIIIMDSKTDYQGFQSMYTFVTSHPGPFNEVD 180
QY 183 FKTVEVNRKEQVALIMNMSGSTGLPKGVOLTHENIVTRFSHARDPIYGNQSPGTAILTV 242
Db 181 FVPESPDRDKTIALIMNMSGSTGLPKGVALPHRTACVRFSHARDPIFGNQIIPDTAILSV 240
QY 243 VPFHGFGMFTTLYGTLCCGFRIVMLTKPDEBETFLTKLDYKCSSVILVPTLFAILNRSEL 302
Db 241 VPFHGFGMFTTLYGTLCCGFRIVMLTRFEEELFLRSQDYKIQSALLVPTLFSFAKSTL 300
QY 303 LDKYDLSNLVEIASGGAPLSKEIGEAARFNLPGVRQGYGLTETTSAILITPEGDDKRP 362
Db 301 IDKYDLSNLHEIASGAPLSKEVAVAKRPHLPGRQGYGLTETTSAILITPEGDDKRP 360
QY 363 ASGVVPLPKAKVIDLTKTLGNRRGVECVKGMPLMKGYVNDPEATREIIDEGLWLR 422
Db 361 AVGVVPPFEAKVVDLTKTLGNQRGELCVRGPMIMSGYVNNPEATNALIDKDWLH 420

QY 423 GDIGYDEKHFPIVDRLKSLIKYGYOVPPAELESVLLQHPNIFDAGVAGVPDPPIAGEL 482
Db 421 GDIAVWDSDEHFIIVDRILKSLIKYGYQVAPAELESILLOHPNIFDAGVAGLPDDAGE 480
QY 483 PCAUVVVLKKGKSMTEKEVMDYVASQVSNAKRLRGGRVDFVDPKGLTKIDGKAIREILK 542
Db 481 PAAUVVVLHGKTMTEKEIVDYVASQVTTAKLRLGGVWFVDEVPKGLTKIDKARKIREIL 540
QY 543 K 543
Db 541 K 541

RESULT 12
US-10-348-074-34
; Sequence 34, Application US/10348074
; Publication No. US20030176386A1
; GENERAL INFORMATION:
; APPLICANT: Morphotek Inc.
; APPLICANT: Grasso, Luigi
; APPLICANT: Kline, J. Bradford
; APPLICANT: Nicolaides, Nicholas C.
; APPLICANT: Sasse, Philip M.
; TITLE OF INVENTION: Method for Generating Engineered Cells for Locus Specific Gene
; FILE REFERENCE: MG0003 US (MOR-0140)
; CURRENT APPLICATION NUMBER: US/10/348,074
; CURRENT FILING DATE: 2003-01-17
; PRIOR APPLICATION NUMBER: 60/349,565
; PRIOR FILING DATE: 2002-01-18
; NUMBER OF SEQ ID NOS: 47
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 34
; LENGTH: 550
; TYPE: PRT
; ORGANISM: Photinus pyralis
US-10-348-074-34

Query Match 68.9%; Score 1945.5; DB 14; Length 550;
Best Local Similarity 68.2%; Pred. No. 7.3e-180;
Matches 369; Conservative 75; Mismatches 96; Indels 1; Gaps 1;
QY 4 MENDENIVGPEPFYPIEGSAGALRYKMYMDRYAKL-GAIAFTNALTGVDYTYAEYLEKS 62
Db 1 MEDAKNIKKGPAPPYPLEDGTAGEQLHKAMKRYALVPGTIAFTDAHIEVNITYAEYFEMS 60
QY 63 CCLGEALKNVGLVVDGRIALCSENCEEFFIPVLGALFIGVGVAPTNEIYTLRELVHSLGI 122
Db 61 VRLAEAMKRYGLNTHRIIVVCSNSLQFFMPVLGALFIGVAVAPANDIYNERELLSMNI 120
QY 123 SKPTIVFSSKKGLDKVITVQKTVTAIKTIVILDSKVDYRGVQSMDFIKKNTPOGFGKSS 182
Db 121 SQPTVVFVSKKGLQKILNVQKLPITQKIIIMDSKTDYQGFQSMYTFVTSHPGPFNEVD 180
QY 183 FKTVEVNRKEQVALIMNMSGSTGLPKGVOLTHENIVTRFSHARDPIYGNQSPGTAILTV 242
Db 181 FVPESPDRDKTIALIMNMSGSTGLPKGVALPHRTACVRFSHARDPIFGNQIIPDTAILSV 240
QY 243 VPFHGFGMFTTLYGTLCCGFRIVMLTKPDEBETFLTKLDYKCSSVILVPTLFAILNRSEL 302
Db 241 VPFHGFGMFTTLYGTLCCGFRIVMLTRFEEELFLRSQDYKIQSALLVPTLFSFAKSTL 300
QY 303 LDKYDLSNLVEIASGGAPLSKEIGEAARFNLPGVRQGYGLTETTSAILITPEGDDKRP 362
Db 301 IDKYDLSNLHEIASGAPLSKEVAVAKRPHLPGRQGYGLTETTSAILITPEGDDKRP 360
QY 363 ASGVVPLPKAKVIDLTKTLGNRRGVECVKGMPLMKGYVNDPEATREIIDEGLWLR 422
Db 361 AVGVVPPFEAKVVDLTKTLGNQRGELCVRGPMIMSGYVNNPEATNALIDKDWLH 420
QY 423 GDIGYDEKHFPIVDRLKSLIKYGYOVPPAELESVLLQHPNIFDAGVAGVPDPPIAGEL 482

Db 649 K 649

RESULT 15

US-09-838-469-30

Sequence 30, Application US/09838469

Publication No. US2003068801A1

GENERAL INFORMATION:

APPLICANT: Wood, Keith V.

APPLICANT: Hall, Mary P.

APPLICANT: Promega Corporation

TITLE OF INVENTION: THERMOSTABLE LUCIFERASES AND METHODS OF PRODUCTION

FILE REFERENCE: 341.012US1

CURRENT APPLICATION NUMBER: US/09/838,469

CURRENT FILING DATE: 2001-04-19

PRIOR APPLICATION NUMBER: US/09/156,946

PRIOR FILING DATE: 1998-09-18

NUMBER OF SEQ ID NOS: 41

SOFTWARE: Patent In Ver. 2.0

SEQ ID NO 30

LENGTH: 548

TYPE: PRT

ORGANISM: Beetle

US-09-838-469-30

Query Match 67.0%; Score 1892; DB 10; Length 548;

Best Local Similarity 67.8%; Pred. No. 1.2e-174;

Matches 366; Conservative 72; Mismatches 100; Indels 2; Gaps 2;

QY 4 MEND-ENIVYGPFFPIEGSAGALRYKMDRYAKL-GAIAFTNALTGVDYTYAEYLEK 61

Db 1 MEDDSKIHMHGRHSILWEDGTAGEQLHKAMRYAQVPGTIAFTDAHAENVITYSEYFEM 60

QY 62 SCLGEALKNYGLVDCRIALCSECEEFPIVLGAGLFIGVGVAFTNBIYTLRELVLHSLG 121

Db 61 SCLAEATMKRYGLGLQHIAVCSETSLQFMPVCGALFIGVGVAFTNDIYNERELYNLSL 120

QY 122 ISKPTIVFSSKGLDKVITVQKTAIKTIVILDSKYDVRGYQSDNPKTKNTPQGFKGS 181

Db 121 ISOPTIVFCSKALQKILGVQKLPVIQKIVILDSREDYMGQSMYSFIESHLPAGFNEY 180

QY 182 SFKTVENRKEQVALIMNSSGSTGLPKGVLTALTKIVILDSKYDVRGYQSDNPKTKNTPQGFKGS 181

Db 181 DIYIPDSFRETATALIMNSSGSTGLPKGVLTALTKIVILDSREDYMGQSMYSFIESHLPAGFNEY 180

QY 242 VVPFHGFGFTTLGYLTCGFRIVMLTKPDBETFLKTLQDYKCSSVILVPTLFAILNRSE 301

Db 241 VIPFHVFMFTTLGYLTCGFRIVMLYRFEELFLSLQDYKIQSALLVPTLFSFFAKST 300

QY 302 LLDKYDLSNLVETIASGAPLSKEIGEAVARRNLPQVRQGYGLTETTSALITPEGDDXP 361

Db 301 LVDKYDLSNLHEIASGAPLAKEVEGAARFPLGIRQGYGLTETTSALITPEGDDXP 360

QY 362 GASGVVPLFKAKVIDLDTKTLGNRRGEVCKGPMKMGVYVNDPEATREIIDEGWLH 421

Db 361 GACGVVPPFTAKIVDLDTKTLGNRRGEVCKGPMKMGVYVNDPEATREIIDEGWLH 420

QY 422 TGDIGYDEKEHFFIVDLKSLIKYGVQVPAELESVLLQHPNIFDAGVAGVDPPIAGE 481

Db 421 SGDIAYYDKGHHFFIVDLKSLIKYGVQVPAELESVLLQHPNIFDAGVAGVDPPIAGE 480

QY 482 LPGAIVVLKKGKSMTEKEVMDYVASQVSNARKLRGGVRFVDEVPKGLTGKIDGKAIREIL 541

Db 481 LPAAVVLEEGKWMTEQEVMDYVAGQVTSKRLRGVGVFVDEVPKGLTGKIDSKRIREIL 540

RESULT 16

US-10-378-168-30

Sequence 30, Application US/10378168

Publication No. US2003023240A1

GENERAL INFORMATION:

APPLICANT: Wood, Keith V.

APPLICANT: Hall, Mary P.

TITLE OF INVENTION: Thermostable luciferases and methods of

FILE REFERENCE: 341.012US1

CURRENT APPLICATION NUMBER: US/10/378,168

PRIOR APPLICATION NUMBER: US/09/396,154

PRIOR FILING DATE: 1999-09-15

PRIOR APPLICATION NUMBER: EARLIER FILING DATE: US 09/156,946

PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18

PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: PCT/US98/19494

PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18

PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 60/059,379

PRIOR FILING DATE: EARLIER FILING DATE: 1997-09-19

NUMBER OF SEQ ID NOS: 93

SOFTWARE: FastSeq for Windows Version 3.0

SEQ ID NO 30

LENGTH: 548

TYPE: PRT

ORGANISM: Pyrocoelia miyako

US-10-378-168-30

Query Match 67.0%; Score 1892; DB 15; Length 548;

Best Local Similarity 67.8%; Pred. No. 1.2e-174;

Matches 366; Conservative 72; Mismatches 100; Indels 2; Gaps 2;

QY 4 MEND-ENIVYGPFFPIEGSAGALRYKMDRYAKL-GAIAFTNALTGVDYTYAEYLEK 61

Db 1 MEDDSKIHMHGRHSILWEDGTAGEQLHKAMRYAQVPGTIAFTDAHAENVITYSEYFEM 60

QY 62 SCLGEALKNYGLVDCRIALCSECEEFPIVLGAGLFIGVGVAFTNBIYTLRELVLHSLG 121

Db 61 SCLAEATMKRYGLGLQHIAVCSETSLQFMPVCGALFIGVGVAFTNDIYNERELYNLSL 120

QY 122 ISKPTIVFSSKGLDKVITVQKTAIKTIVILDSKYDVRGYQSDNPKTKNTPQGFKGS 181

Db 121 ISOPTIVFCSKALQKILGVQKLPVIQKIVILDSREDYMGQSMYSFIESHLPAGFNEY 180

QY 182 SFKTVENRKEQVALIMNSSGSTGLPKGVLTALTKIVILDSKYDVRGYQSDNPKTKNTPQGFKGS 181

Db 181 DIYIPDSFRETATALIMNSSGSTGLPKGVLTALTKIVILDSREDYMGQSMYSFIESHLPAGFNEY 180

QY 242 VVPFHGFGFTTLGYLTCGFRIVMLTKPDBETFLKTLQDYKCSSVILVPTLFAILNRSE 301

Db 241 VIPFHVFMFTTLGYLTCGFRIVMLYRFEELFLSLQDYKIQSALLVPTLFSFFAKST 300

QY 302 LLDKYDLSNLVETIASGAPLSKEIGEAVARRNLPQVRQGYGLTETTSALITPEGDDXP 361

Db 301 LVDKYDLSNLHEIASGAPLAKEVEGAARFPLGIRQGYGLTETTSALITPEGDDXP 360

QY 362 GASGVVPLFKAKVIDLDTKTLGNRRGEVCKGPMKMGVYVNDPEATREIIDEGWLH 421

Db 361 GACGVVPPFTAKIVDLDTKTLGNRRGEVCKGPMKMGVYVNDPEATREIIDEGWLH 420

QY 422 TGDIGYDEKEHFFIVDLKSLIKYGVQVPAELESVLLQHPNIFDAGVAGVDPPIAGE 481

Db 421 SGDIAYYDKGHHFFIVDLKSLIKYGVQVPAELESVLLQHPNIFDAGVAGVDPPIAGE 480

QY 482 LPGAIVVLKKGKSMTEKEVMDYVASQVSNARKLRGGVRFVDEVPKGLTGKIDGKAIREIL 541

Db 481 LPAAVVLEEGKWMTEQEVMDYVAGQVTSKRLRGVGVFVDEVPKGLTGKIDSKRIREIL 540

RESULT 17

US-09-838-469-33

Sequence 33, Application US/09838469

Publication No. US20030068801A1

GENERAL INFORMATION:

APPLICANT: Wood, Keith V.

APPLICANT: Hall, Mary P.

APPLICANT: Promega Corporation

TITLE OF INVENTION: THERMOSTABLE LUCIFERASES AND METHODS OF PRODUCTION

FILE REFERENCE: 341.006US1

; CURRENT APPLICATION NUMBER: US/09/838,469
; CURRENT FILING DATE: 2001-04-19
; PRIOR APPLICATION NUMBER: US/09/156,946
; PRIOR FILING DATE: 1998-09-18
; NUMBER OF SEQ ID NOS: 41
; SOFTWARE: Patentin Ver. 2.0
; SEQ ID NO 33
; LENGTH: 552
; TYPE: PRT
; ORGANISM: Beetle
US-09-838-469-33

Query Match 64.9%; Score 1831; DB 10; Length 552;
Best Local Similarity 62.7%; Pred. No. 1e-168;
Matches 339; Conservative 91; Mismatches 109; Indels 2; Gaps 2;
QY 4 MENDENIVGPEPPFYPIEGSAGAQLKYMNDRYAKL-GAIAFTNALTGVDYTYABYLEKS 62
Db 1 MSIENNILIGPPYPYPLEEGTAGELHRAISRVAAPGTLAYTDVHTELEVITYKEFLDVT 60
QY 63 CCLGEALKNYGLVVDGRIALCSNCEBFFIPVLAGLFIGVGVAPTNVEIYTLRELHSLGI 122
Db 61 CRLAEMKNYGLGLOHTISVCSNCEVQFFMPICAAALYGVATAPTNDIYNERELYNLSI 120
QY 123 SKPTIVFSSKKGDKVITVQKTVTAIKTIVILDSKVDYRGYQSDMNFICKNTPOGFKGSS 182
Db 121 SQPTIVFTSRNSLQKILGVQSRPLPIIKIILDGKDYLGYSQSMQSFMEHVPANFNVA 180
QY 183 FKTVEVNRKEQVALIMNSGSGTGLPKGVQLTHENIVTRFSHARDPIYGNQVSPGTAILTV 242
Db 181 FKPLSFD-LDRVACIMNSGSGTGLPKGVPISHRNTIYRFSHCDPVPFGNQIIPDTTILCA 239
QY 243 VPFHHGFGMTTILGYLTCGFRIVMLTKFDEETFLKLDYKCSSVILVPTLFAINRSEL 302
Db 240 VPFHAFGTFTNLGYLTCGFHVLMYRFEHFLQTLQDYKCSALLVPTVLAFLAKNPL 299
QY 303 LDKYDLSNLVEIASGGAPLSKEIGEAVARFNLPGVRQGYGLTETTSALIIITPEGDDKPG 362
Db 300 VDKYDLSNLHEIASGGAPLSKEISEIAAKRFLPGIRQGYGLTETTTCAIVITAEGBEFKLG 359
QY 363 ASGVVPLFKAKVIDLTKTIGPNRGEVCVKGPMKGYVDNPEATREIIDEGWLHT 422
Db 360 AVGVVFPFSLKVLDTNTGKLGPNRGEICFKGPMIMKGYINNPEATREIIDEGWIHS 419
QY 423 GDIGYDEEHFFIVDRLSKLIKYGYQVPPABLESVLLQHPNIFDAGVAGVDPDIAGEL 482
Db 420 GDIGYFDEGHVIVDRLSKLIKYGYQVPPABLESVLLQHPNIFDAGVAGVDPDEAGDL 479
QY 483 PGAVVVLKKGKSMTEKEVMDYVQSVNNAKRLGGVRFVDEVPKGLTKIDKGAIREILK 542
Db 480 PGAVVVLKKGKSMTEKEIODYVAGQVTSKRLGGVEFVKEVPKGTGKIDTRKIBELI 539
QY 543 K 543
Db 540 K 540

RESULT 18
US-10-378-168-33
; Sequence 33, Application US/10378168
; Publication No. US20030232404A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Hall, Mary P.
; TITLE OF INVENTION: Thermostable luciferases and methods of
; TITLE OF INVENTION: production
; FILE REFERENCE: 341.012US1
; CURRENT APPLICATION NUMBER: US/10/378,168
; CURRENT FILING DATE: 2003-02-28
; PRIOR APPLICATION NUMBER: US/09/396,154
; PRIOR FILING DATE: 1999-09-15
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 09/156,946
; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18

; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: PCT/US98/19494
; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 60/059,379
; PRIOR FILING DATE: EARLIER FILING DATE: 1997-09-19
; NUMBER OF SEQ ID NOS: 93
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 33
; LENGTH: 552
; TYPE: PRT
; ORGANISM: Photuris pennsylvanica
US-10-378-168-33

Query Match 64.9%; Score 1831; DB 15; Length 552;
Best Local Similarity 62.7%; Pred. No. 1e-168;
Matches 339; Conservative 91; Mismatches 109; Indels 2; Gaps 2;
QY 4 MENDENIVGPEPPFYPIEGSAGAQLKYMNDRYAKL-GAIAFTNALTGVDYTYABYLEKS 62
Db 1 MSIENNILIGPPYPYPLEEGTAGELHRAISRVAAPGTLAYTDVHTELEVITYKEFLDVT 60
QY 63 CCLGEALKNYGLVVDGRIALCSNCEBFFIPVLAGLFIGVGVAPTNVEIYTLRELHSLGI 122
Db 61 CRLAEMKNYGLGLOHTISVCSNCEVQFFMPICAAALYGVATAPTNDIYNERELYNLSI 120
QY 123 SKPTIVFSSKKGDKVITVQKTVTAIKTIVILDSKVDYRGYQSDMNFICKNTPOGFKGSS 182
Db 121 SQPTIVFTSRNSLQKILGVQSRPLPIIKIILDGKDYLGYSQSMQSFMEHVPANFNVA 180
QY 183 FKTVEVNRKEQVALIMNSGSGTGLPKGVQLTHENIVTRFSHARDPIYGNQVSPGTAILTV 242
Db 181 FKPLSFD-LDRVACIMNSGSGTGLPKGVPISHRNTIYRFSHCDPVPFGNQIIPDTTILCA 239
QY 243 VPFHHGFGMTTILGYLTCGFRIVMLTKFDEETFLKLDYKCSSVILVPTLFAINRSEL 302
Db 240 VPFHAFGTFTNLGYLTCGFHVLMYRFEHFLQTLQDYKCSALLVPTVLAFLAKNPL 299
QY 303 LDKYDLSNLVEIASGGAPLSKEIGEAVARFNLPGVRQGYGLTETTSALIIITPEGDDKPG 362
Db 300 VDKYDLSNLHEIASGGAPLSKEISEIAAKRFLPGIRQGYGLTETTTCAIVITAEGBEFKLG 359
QY 363 ASGVVPLFKAKVIDLTKTIGPNRGEVCVKGPMKGYVDNPEATREIIDEGWLHT 422
Db 360 AVGVVFPFSLKVLDTNTGKLGPNRGEICFKGPMIMKGYINNPEATREIIDEGWIHS 419
QY 423 GDIGYDEEHFFIVDRLSKLIKYGYQVPPABLESVLLQHPNIFDAGVAGVDPDIAGEL 482
Db 420 GDIGYFDEGHVIVDRLSKLIKYGYQVPPABLESVLLQHPNIFDAGVAGVDPDEAGDL 479
QY 483 PGAVVVLKKGKSMTEKEVMDYVQSVNNAKRLGGVRFVDEVPKGLTKIDKGAIREILK 542
Db 480 PGAVVVLKKGKSMTEKEIODYVAGQVTSKRLGGVEFVKEVPKGTGKIDTRKIBELI 539
QY 543 K 543
Db 540 K 540

RESULT 19
US-09-838-469-24
; Sequence 24, Application US/09838469
; Publication No. US20030068801A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Hall, Mary P.
; TITLE OF INVENTION: Thermostable luciferases and methods of production
; TITLE OF INVENTION: production
; FILE REFERENCE: 341.006US1
; CURRENT APPLICATION NUMBER: US/09/838,469
; CURRENT FILING DATE: 2001-04-19
; PRIOR APPLICATION NUMBER: US/09/156,946
; PRIOR FILING DATE: 1998-09-18
; NUMBER OF SEQ ID NOS: 41
; SOFTWARE: Patentin Ver. 2.0

Db 63 AEFKFKYGLKQNDTIAVCSNSLQFLPVIASLYLGIIVAPVNDKYIERELIHSGLIVKP 122
QY 126 TIVFSSKGLDQVITVOKTVAITKIVILDSKVDYRGYQSMDFIKKNTPOGFKGSSFKT 185
Db 123 RIVFCSKNTFOKVLNVKSKLSIETIILDLNEDLGGYQCLNNFISQNSDNLVDVKFKP 182
QY 186 VEVNRKEQVALIMNSSGSTGLPKGVOLTHENIVTRFSHARDPIYGNQVSPGTAILTVVPF 245
Db 183 YSFNRDDQVALIMFSSGTTGLPKGVMLTHKNIIVARFSIAKDPTFGNAINPTSAITVVPF 242
QY 246 HHGFGMFTTILGTCGPRIVMLTKFDEBETFLKLDYKCSSVILVPTLFAILNRSLLDK 305
Db 243 HHGFGMFTTILGTCGPRIVMLTKFDEBETFLKLDYKCSSVILVPTLFAILNRSLLDK 302
QY 306 YDLSNLVEIASGGAPLSKEIGEAARFNLPGVRQGYGLTETTSALIIITPEGDDKPGASG 365
Db 303 YDLSHLKEIASGGAPLSKEIGEMVKKFKLNFVRQGYGLTETTSALIIITPEGDDKPGSTG 362
QY 366 KVVPLFAKVIDLDTKTILGNRRGEVCKGPMKMGYVNDPEATREIIDEGWLHTGDI 425
Db 363 KIVPLFAKVIDLDTKTILGNRRGEVCKGPMKMGYVNDPEATREIIDEGWLHTGDI 422
QY 426 GYDEEKHFIVDLKSLIKYGYQVAPAELESVLLQHPNIFDAGVAGVDPDPIAGELPGA 485
Db 423 AYDNDGHFIVDLKSLIKYGYQVAPAELESVLLQHPNIFDAGVAGVDPDPIAGELPGA 482
QY 486 VVVLKKGKSMTEKEVMDYVASQVSNKRLRGVRFVDEVPKGLTGKIDGKAIREILKK 543
Db 483 GVVVQTKYLNEIQVDYVASQVSTAKWLRGGVKFLDEIPKSGTGKIDRKLQMLEK 540

RESULT 22

US-10-378-168-24
; Sequence 24, Application US/10378168
; Publication No. US20030232404A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Hall, Mary P.
; TITLE OF INVENTION: Thermostable luciferases and methods of
; FILE REFERENCE: 341.012US1
; CURRENT APPLICATION NUMBER: US/10/378,168
; PRIOR FILING DATE: 2003-02-28
; PRIOR APPLICATION NUMBER: US/09/396,154
; PRIOR FILING DATE: 1999-09-15
; PRIOR APPLICATION NUMBER: US 09/156,946
; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: EARLIER FILING DATE: PCT/US98/19494
; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: EARLIER FILING DATE: US 60/059,379
; PRIOR FILING DATE: EARLIER FILING DATE: 1997-09-19
; SOFTWARE: PastSeq for Windows Version 3.0
; SEQ ID NO 24
; LENGTH: 544
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Mutant luciferase
US-10-378-168-24

Query Match 60.6%; Score 1710.5; DB 15; Length 544;
Best Local Similarity 60.8%; Pred. No. 5.3e-157;
Matches 327; Conservative 82; Mismatches 128; Indels 1; Gaps 1;
QY 7 DENIVYGPFFPIEBGSAQAQLKYMRYAKL-GAIAFTNALTGVDYTYAEYLSKSCCL 65
Db 3 DKNILYGPFFPIEBGSAQAQLKYMRYAKL-GAIAFTNALTGVDYTYAEYLSKSCCL 62
QY 66 GEALKNYGLVVDGRIALCSENCEEFFIPVLAGLFIGVGAPVPTNEIYTLRELVHSLGSKP 125
Db 63 AEFKFKYGLKQNDTIAVCSNSLQFLPVIASLYLGIIVAPVNDKYIERELIHSGLIVKP 122

QY 126 TIVFSSKGLDQVITVOKTVAITKIVILDSKVDYRGYQSMDFIKKNTPOGFKGSSFKT 185
Db 123 RIVFCSKNTFOKVLNVKSKLSIETIILDLNEDLGGYQCLNNFISQNSDNLVDVKFKP 182
QY 186 VEVNRKEQVALIMNSSGSTGLPKGVOLTHENIVTRFSHARDPIYGNQVSPGTAILTVVPF 245
Db 183 YSFNRDDQVALIMFSSGTTGLPKGVMLTHKNIIVARFSIAKDPTFGNAINPTSAITVVPF 242
QY 246 HHGFGMFTTILGTCGPRIVMLTKFDEBETFLKLDYKCSSVILVPTLFAILNRSLLDK 305
Db 243 HHGFGMFTTILGTCGPRIVMLTKFDEBETFLKLDYKCSSVILVPTLFAILNRSLLDK 302
QY 306 YDLSNLVEIASGGAPLSKEIGEAARFNLPGVRQGYGLTETTSALIIITPEGDDKPGASG 365
Db 303 YDLSHLKEIASGGAPLSKEIGEMVKKFKLNFVRQGYGLTETTSALIIITPEGDDKPGSTG 362
QY 366 KVVPLFAKVIDLDTKTILGNRRGEVCKGPMKMGYVNDPEATREIIDEGWLHTGDI 425
Db 363 KIVPLFAKVIDLDTKTILGNRRGEVCKGPMKMGYVNDPEATREIIDEGWLHTGDI 422
QY 426 GYDEEKHFIVDLKSLIKYGYQVAPAELESVLLQHPNIFDAGVAGVDPDPIAGELPGA 485
Db 423 AYDNDGHFIVDLKSLIKYGYQVAPAELESVLLQHPNIFDAGVAGVDPDPIAGELPGA 482
QY 486 VVVLKKGKSMTEKEVMDYVASQVSNKRLRGVRFVDEVPKGLTGKIDGKAIREILKK 543
Db 483 GVVVQTKYLNEIQVDYVASQVSTAKWLRGGVKFLDEIPKSGTGKIDRKLQMLEK 540

RESULT 23

US-10-378-168-45
; Sequence 45, Application US/10378168
; Publication No. US20030232404A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Hall, Mary P.
; TITLE OF INVENTION: Thermostable luciferases and methods of
; FILE REFERENCE: 341.012US1
; CURRENT APPLICATION NUMBER: US/10/378,168
; PRIOR FILING DATE: 2003-02-28
; PRIOR APPLICATION NUMBER: US/09/396,154
; PRIOR FILING DATE: 1999-09-15
; PRIOR APPLICATION NUMBER: EARLIER FILING DATE: 1998-09-18
; PRIOR FILING DATE: EARLIER FILING DATE: PCT/US98/19494
; PRIOR APPLICATION NUMBER: EARLIER FILING DATE: 1998-09-18
; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: EARLIER FILING DATE: US 60/059,379
; PRIOR FILING DATE: EARLIER FILING DATE: 1997-09-19
; SOFTWARE: PastSeq for Windows Version 3.0
; SEQ ID NO 45
; LENGTH: 544
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Mutant luciferase
US-10-378-168-45

Query Match 60.6%; Score 1710.5; DB 15; Length 544;
Best Local Similarity 60.8%; Pred. No. 5.3e-157;
Matches 327; Conservative 83; Mismatches 127; Indels 1; Gaps 1;
QY 7 DENIVYGPFFPIEBGSAQAQLKYMRYAKL-GAIAFTNALTGVDYTYAEYLSKSCCL 65
Db 3 DKNILYGPFFPIEBGSAQAQLKYMRYAKL-GAIAFTNALTGVDYTYAEYLSKSCCL 62
QY 66 GEALKNYGLVVDGRIALCSENCEEFFIPVLAGLFIGVGAPVPTNEIYTLRELVHSLGSKP 125
Db 63 AEFKFKYGLKQNDTIAVCSNSLQFLPVIASLYLGIIVAPVNDKYIERELIHSGLIVKP 122
QY 126 TIVFSSKGLDQVITVOKTVAITKIVILDSKVDYRGYQSMDFIKKNTPOGFKGSSFKT 185

Db 123 RIVFCSKNTFOKVLNVKSKLSIETIIILDNLNEDGGVQCLNNFISQNSDSNLDVKKFKP 182
QY 186 VEVNRKEQVALIMNSGSGTGLPKGVQLTHENIVTRFSGHARDPIYGNQVSPGTAILTVVPF 245
Db 183 YSFNRDDQVASIMFSSGTTGLPKGVMLTHKNIVARFSAKOPTFGNAINPTSAITVVPF 242
QY 246 HHGFGMTTLGYTCGFRVIMLTGKDBETFLKTLQDYKCSSVILVPTLFAILNRSELLDK 305
Db 243 HHGFGMTTLGYTCGFRVIMLTGKDBETFLKTLQDYKCSSVILVPTLFAILNRSELLDK 302
QY 306 YDLSNLVEIASGGAPLSKEIGEAVARRFNLPGRVQGYGLTETTSAILIITPEGDDKPGASG 365
Db 303 YDLSNLVEIASGGAPLSKEIGEAVARRFNLPGRVQGYGLTETTSAILIITPEGDDKPGASG 362
QY 366 KVVPLFAKVIDLTKTKLGNRRGEVVCVGMKMGYVNDNPEATREIIDBEGWLHTGDI 425
Db 363 KIVPLHAVKVVDPPTGKILGNPEGELYFKGPMIMKGYNNNEEATKAIIDNDGWLRSGL 422
QY 426 GYDDEKHFIVDRKLSLIKYGVPPPAELSVLLOHPNIFDAGVAGVDPPIAGELPGA 485
Db 423 AYDNDGHHFYIVDRKLSLIKYGVAPABIEGILLQHPYIVDAGVTGIPDEAAGELPAA 482
QY 486 VVVLKKGKSMTEKVMYDVASQVSNKRLRGVRFVDEVPKGLTGKIDGKAIREILKK 543
Db 483 GVVVQTGKYLNEQIVQDVASQVSTAKWLRGGVYKFLDEIPKSGTGKIDRVLQRMPEK 540
RESULT 24
US-10-655-878-2
; Sequence 2, Application US/10655878
; Publication No. US20040101922A1
; GENERAL INFORMATION:
; APPLICANT: Somberg, Richard
; APPLICANT: Goueli, Said A.
; TITLE OF INVENTION: Method for Detecting Transferase Enzymatic Activity
; FILE REFERENCE: 03-772
; CURRENT APPLICATION NUMBER: US/10/655,878
; PRIOR FILING DATE: 2003-09-05
; PRIOR APPLICATION NUMBER: US 60/408,662
; NUMBER OF SEQ ID NOS: 8
; SOFTWARE: Patentin version 3.2
; SEQ ID NO 2
; LENGTH: 544
; TYPE: PRT
; ORGANISM: Photuris pennsylvanica
US-10-655-878-2
Query Match 60.6%; Score 1710.5; DB 16; Length 544;
Best Local Similarity 60.8%; Pred. No. 5.3e-157;
Matches 327; Conservative 82; Mismatches 128; Indels 1; Gaps 1;
QY 7 DENIVGPEPPYPIERBSAGALRYKMDRYAKL-GAIAFTNALTGVDYTYAEVLEKSCCL 65
Db 3 DKNILYGPPEPPYPLEDGTAGEQFDALSRYADIPGCIALTNAHTKENVYEEFLKLSCL 62
QY 66 GEALKNYGLVVDGRIALCSENCEBEFFIPVLGIFGVGVAPTNEIYTLRELVHSLGISKP 125
Db 63 AESFKYGLKQNDTIAVCSNGLQFPLVPIASLYLGIIVAPVNDKYIERELIHSLGIVKP 122
QY 126 TIVFSSKGLDKVITVQKTTAIVTILDSKVDYRGYQSMDFIKKNTPOGFGKSSFKT 185
Db 123 RIVFCSKNTFOKVLNVKSKLSIETIIILDNLNEDGGVQCLNNFISQNSDSNLDVKKFKP 182
QY 186 VEVNRKEQVALIMNSGSGTGLPKGVQLTHENIVTRFSGHARDPIYGNQVSPGTAILTVVPF 245
Db 183 YSFNRDDQVASIMFSSGTTGLPKGVMLTHKNIVARFSAKOPTFGNAINPTSAITVVPF 242
QY 246 HHGFGMTTLGYTCGFRVIMLTGKDBETFLKTLQDYKCSSVILVPTLFAILNRSELLDK 305
Db 243 HHGFGMTTLGYTCGFRVIMLTGKDBETFLKTLQDYKCSSVILVPTLFAILNRSELLDK 302
QY 306 YDLSNLVEIASGGAPLSKEIGEAVARRFNLPGRVQGYGLTETTSAILIITPEGDDKPGASG 365
Db 303 YDLSNLVEIASGGAPLSKEIGEAVARRFNLPGRVQGYGLTETTSAILIITPEGDDKPGASG 362
QY 366 KVVPLFAKVIDLTKTKLGNRRGEVVCVGMKMGYVNDNPEATREIIDBEGWLHTGDI 425
Db 363 KIVPLHAVKVVDPPTGKILGNPEGELYFKGPMIMKGYNNNEEATKAIIDNDGWLRSGL 422
QY 426 GYDDEKHFIVDRKLSLIKYGVPPPAELSVLLOHPNIFDAGVAGVDPPIAGELPGA 485
Db 423 AYDNDGHHFYIVDRKLSLIKYGVAPABIEGILLQHPYIVDAGVTGIPDEAAGELPAA 482
QY 486 VVVLKKGKSMTEKVMYDVASQVSNKRLRGVRFVDEVPKGLTGKIDGKAIREILKK 543
Db 483 GVVVQTGKYLNEQIVQDVASQVSTAKWLRGGVYKFLDEIPKSGTGKIDRVLQRMPEK 540

Db 303 YDLSNLVEIASGGAPLSKEIGEAVARRFNLPGRVQGYGLTETTSAILIITPEGDDKPGASG 362
QY 366 KVVPLFAKVIDLTKTKLGNRRGEVVCVGMKMGYVNDNPEATREIIDBEGWLHTGDI 425
Db 363 KIVPLHAVKVVDPPTGKILGNPEGELYFKGPMIMKGYNNNEEATKAIIDNDGWLRSGL 422
QY 426 GYDDEKHFIVDRKLSLIKYGVPPPAELSVLLOHPNIFDAGVAGVDPPIAGELPGA 485
Db 423 AYDNDGHHFYIVDRKLSLIKYGVAPABIEGILLQHPYIVDAGVTGIPDEAAGELPAA 482
QY 486 VVVLKKGKSMTEKVMYDVASQVSNKRLRGVRFVDEVPKGLTGKIDGKAIREILKK 543
Db 483 GVVVQTGKYLNEQIVQDVASQVSTAKWLRGGVYKFLDEIPKSGTGKIDRVLQRMPEK 540
RESULT 25
US-10-655-878-4
; Sequence 4, Application US/10655878
; Publication No. US20040101922A1
; GENERAL INFORMATION:
; APPLICANT: Somberg, Richard
; APPLICANT: Goueli, Said A.
; TITLE OF INVENTION: Method for Detecting Transferase Enzymatic Activity
; FILE REFERENCE: 03-772
; CURRENT APPLICATION NUMBER: US/10/655,878
; PRIOR FILING DATE: 2003-09-05
; PRIOR APPLICATION NUMBER: US 60/408,662
; NUMBER OF SEQ ID NOS: 8
; SOFTWARE: Patentin version 3.2
; SEQ ID NO 4
; LENGTH: 544
; TYPE: PRT
; ORGANISM: Photuris pennsylvanica
US-10-655-878-4
Query Match 60.6%; Score 1710.5; DB 16; Length 544;
Best Local Similarity 60.8%; Pred. No. 5.3e-157;
Matches 327; Conservative 83; Mismatches 127; Indels 1; Gaps 1;
QY 7 DENIVGPEPPYPIERBSAGALRYKMDRYAKL-GAIAFTNALTGVDYTYAEVLEKSCCL 65
Db 3 DKNILYGPPEPPYPLEDGTAGEQFDALSRYADIPGCIALTNAHTKENVYEEFLKLSCL 62
QY 66 GEALKNYGLVVDGRIALCSENCEBEFFIPVLGIFGVGVAPTNEIYTLRELVHSLGISKP 125
Db 63 AESFKYGLKQNDTIAVCSNGLQFPLVPIASLYLGIIVAPVNDKYIERELIHSLGIVKP 122
QY 126 TIVFSSKGLDKVITVQKTTAIVTILDSKVDYRGYQSMDFIKKNTPOGFGKSSFKT 185
Db 123 RIVFCSKNTFOKVLNVKSKLSIETIIILDNLNEDGGVQCLNNFISQNSDSNLDVKKFKP 182
QY 186 VEVNRKEQVALIMNSGSGTGLPKGVQLTHENIVTRFSGHARDPIYGNQVSPGTAILTVVPF 245
Db 183 YSFNRDDQVASIMFSSGTTGLPKGVMLTHKNIVARFSAKOPTFGNAINPTSAITVVPF 242
QY 246 HHGFGMTTLGYTCGFRVIMLTGKDBETFLKTLQDYKCSSVILVPTLFAILNRSELLDK 305
Db 243 HHGFGMTTLGYTCGFRVIMLTGKDBETFLKTLQDYKCSSVILVPTLFAILNRSELLDK 302
QY 306 YDLSNLVEIASGGAPLSKEIGEAVARRFNLPGRVQGYGLTETTSAILIITPEGDDKPGASG 365
Db 303 YDLSNLVEIASGGAPLSKEIGEAVARRFNLPGRVQGYGLTETTSAILIITPEGDDKPGASG 362
QY 366 KVVPLFAKVIDLTKTKLGNRRGEVVCVGMKMGYVNDNPEATREIIDBEGWLHTGDI 425
Db 363 KIVPLHAVKVVDPPTGKILGNPEGELYFKGPMIMKGYNNNEEATKAIIDNDGWLRSGL 422
QY 426 GYDDEKHFIVDRKLSLIKYGVPPPAELSVLLOHPNIFDAGVAGVDPPIAGELPGA 485
Db 423 AYDNDGHHFYIVDRKLSLIKYGVAPABIEGILLQHPYIVDAGVTGIPDEAAGELPAA 482

Qy 486 VVVLKKGKSMTEKEVMDYVASQVSNAKRLRGGVRFVDEVPKGLTGKIDGKAIREILKK 543
Db 483 GVVVQTGKYLNEQIVQDYVASQVSTAKWLRGGVVKFLDEIPKSGTGKIDRKVLRLQMLEK 540

Search completed: July 22, 2004, 08:33:28
Job time : 43 secs

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OM protein - protein search, using sw model

Run on: July 22, 2004, 08:17:14 ; Search time 41 Seconds
(without alignments)
4185.573 Million cell updates/sec

Title: US-09-581-241A-8

Perfect score: 2823

Sequence: 1 MENMENDENIVGPBFFPI.....TKIDGKAIRLTKKPVAKM 548

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 1288442 seqs, 313154207 residues

Total number of hits satisfying chosen parameters: 1288442

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 100 summaries

Database : Published Applications AA.*

- 1: /cgn2_6/prodata1/pubpaa/US07_PUBCOMB.pep.*
- 2: /cgn2_6/prodata1/pubpaa/PCT_NEW_PUB.pep.*
- 3: /cgn2_6/prodata1/pubpaa/US06_NEW_PUB.pep.*
- 4: /cgn2_6/prodata1/pubpaa/US06_PUBCOMB.pep.*
- 5: /cgn2_6/prodata1/pubpaa/US07_NEW_PUB.pep.*
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- 8: /cgn2_6/prodata1/pubpaa/US08_PUBCOMB.pep.*
- 9: /cgn2_6/prodata1/pubpaa/US09A_PUBCOMB.pep.*
- 10: /cgn2_6/prodata1/pubpaa/US09B_PUBCOMB.pep.*
- 11: /cgn2_6/prodata1/pubpaa/US09C_PUBCOMB.pep.*
- 12: /cgn2_6/prodata1/pubpaa/US09_NEW_PUB.pep.*
- 13: /cgn2_6/prodata1/pubpaa/US10A_PUBCOMB.pep.*
- 14: /cgn2_6/prodata1/pubpaa/US10B_PUBCOMB.pep.*
- 15: /cgn2_6/prodata1/pubpaa/US10C_PUBCOMB.pep.*
- 16: /cgn2_6/prodata1/pubpaa/US10_NEW_PUB.pep.*
- 17: /cgn2_6/prodata1/pubpaa/US60_NEW_PUB.pep.*
- 18: /cgn2_6/prodata1/pubpaa/US60_PUBCOMB.pep.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	2814	99.7	548	10	US-09-838-469-28
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3	2689	95.3	548	10	US-09-838-469-27
4	2689	95.3	548	15	US-10-378-168-27
5	2344.5	83.0	548	10	US-09-838-469-29
6	2344.5	83.0	548	15	US-10-378-168-29
7	1968.5	69.7	547	10	US-09-838-469-32
8	1968.5	69.7	547	15	US-10-378-168-32
9	1965.5	69.6	975	12	US-10-072-012-329
10	1960.5	69.4	895	14	US-10-348-074-47
11	1954.5	69.2	550	10	US-09-838-469-31
12	1954.5	69.2	550	15	US-10-348-074-34
13	1954.5	69.2	550	15	US-10-378-168-31
14	1954.5	69.2	1172	14	US-10-122-706-4
15	1893	67.1	548	10	US-09-838-469-30

16	1893	67.1	548	15	US-10-378-168-30
17	1828	64.8	552	10	US-09-838-469-33
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19	1706.5	60.4	544	10	US-09-838-469-24
20	1706.5	60.4	544	15	US-09-813-279B-2
21	1706.5	60.4	544	10	US-09-813-279B-4
22	1706.5	60.4	544	15	US-10-378-168-24
23	1706.5	60.4	544	15	US-10-378-168-45
24	1706.5	60.4	544	16	US-10-655-878-2
25	1706.5	60.4	544	16	US-10-655-878-4
26	1702.5	60.3	544	10	US-09-813-279B-3
27	1702.5	60.3	544	15	US-10-378-168-44
28	1702.5	60.3	544	16	US-10-655-878-3
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30	1671.5	59.2	544	15	US-10-378-168-23
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55	1458.5	51.7	545	9	US-09-993-874-2
56	1388	49.2	546	14	US-10-233-072-2
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58	1384	49.0	546	10	US-09-838-469-34
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61	1363	48.3	543	10	US-09-838-469-36
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76	729.5	25.8	535	15	US-10-184-385-2
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83	723.5	25.6	544	14	US-10-174-693-349
84	716	25.4	544	15	US-10-369-493-6433
85	710	25.2	570	14	US-10-184-385-4
86	709.5	25.1	526	15	US-10-369-493-12596
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88	705	25.0	539	16	US-10-437-963-133157

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89 699 24.8 559 14 US-10-289-757-90 Sequence 90, Appl
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91 694 24.6 559 14 US-10-289-757-91 Sequence 91, Appl
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93 692.5 24.5 575 14 US-10-174-693-407 Sequence 407, App
94 692 24.5 601 12 US-10-425-114-69253 Sequence 69253, A
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96 690.5 24.5 571 16 US-10-437-963-102985 Sequence 102985,
97 682 24.2 551 14 US-10-174-693-348 Sequence 348, App
98 672.5 23.8 565 16 US-10-437-963-140091 Sequence 140091,
99 670 23.7 539 14 US-10-289-757-89 Sequence 89, Appl
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ALIGNMENTS

RESULT 1
US-09-838-469-28
; Sequence 28, Application US/09838469
; Publication No. US2003006801A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Hall, Mary P.
; APPLICANT: Promega Corporation
; TITLE OF INVENTION: THERMOSTABLE LUCIFERASES AND METHODS OF PRODUCTION
; FILE REFERENCE: 341.006US1
; CURRENT APPLICATION NUMBER: US/09/838,469
; PRIOR FILING DATE: 2001-04-19
; PRIOR APPLICATION NUMBER: US/09/156,946
; PRIOR FILING DATE: 1998-09-18
; NUMBER OF SEQ ID NOS: 41
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 28
; LENGTH: 548
; TYPE: PRT
; ORGANISM: Beetle
US-09-838-469-28

Query Match 99.7%; Score 2814; DB 10; Length 548;
Best Local Similarity 99.6%; Pred. No. 6.1e-264;
Matches 546; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 MENNDENIVYGPPEPIEBSAGALCKYMDRYAKLGAIAFTNALTGVDTYAEYLE 60
DB 1 MENNDENIVYGPPEPIEBSAGALCKYMDRYAKLGAIAFTNALTGVDTYAEYLE 60
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QY 121 GISKPTIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGVQSMDFIKKNTPOGPKG 180
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DB 241 TVVPFHFGFMFTTGLYLTGCGFRIVMLTKPDEETFLTKLQDYKCSSVILVPTLFAILNRS 300
QY 301 ELLDKYDLSNLVEIASGAPLSKEIGAVARRNLPVGVQGLTETTSALITPEGDDK 360
DB 301 ELLDKYDLSNLVEIASGAPLSKEIGAVARRNLPVGVQGLTETTSALITPEGDDK 360
QY 361 PGASGKVVPLFAKAKVIDLDTKTLGPNRRGEVCVKGPMLMKGYVDNPEATREIIDEGWL 420
DB 361 PGASGKVVPLFAKAKVIDLDTKTLGPNRRGEVCVKGPMLMKGYVDNPEATREIIDEGWL 420
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QY 481 ELPGAVVYLEKGSMTKEVNDYVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
DB 481 ELPGAVVYLEKGSMTKEVNDYVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
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US-10-378-168-28
; Sequence 28, Application US/10378168
; Publication No. US20030232404A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Hall, Mary P.
; TITLE OF INVENTION: Thermostable luciferases and methods of
; FILE REFERENCE: 341.012US1
; CURRENT APPLICATION NUMBER: US/10/378,168
; PRIOR FILING DATE: 2003-02-28
; PRIOR APPLICATION NUMBER: US/09/396,154
; PRIOR FILING DATE: 1999-09-15
; PRIOR APPLICATION NUMBER: EARLIER FILING DATE: 1998-09-18
; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: EARLIER FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: EARLIER FILING DATE: 1998-09-18
; PRIOR FILING DATE: EARLIER FILING DATE: 1997-09-19
; NUMBER OF SEQ ID NOS: 93
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 28
; LENGTH: 548
; TYPE: PRT
; ORGANISM: Luciola lateralis
US-10-378-168-28

Query Match 99.7%; Score 2814; DB 15; Length 548;
Best Local Similarity 99.6%; Pred. No. 6.1e-264;
Matches 546; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

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DB 61 KSCCLGEALKNYGLVVDGRIALCSENCEEEFFIPVLAGLFIGVGVAPTNEIYTLRELVHSL 120
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DB 121 GISKPTIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGVQSMDFIKKNTPOGPKG 180
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DB 181 SSFKTVEVRKEQVALIMNSGSGTGLPKGVOLTHENAVTRFSHARDDPIYGNVSPGTAIL 240
QY 241 TVVPFHFGFMFTTGLYLTGCGFRIVMLTKPDEETFLTKLQDYKCSSVILVPTLFAILNRS 300
DB 241 TVVPFHFGFMFTTGLYLTGCGFRIVMLTKPDEETFLTKLQDYKCSSVILVPTLFAILNRS 300
QY 301 ELLDKYDLSNLVEIASGAPLSKEIGAVARRNLPVGVQGLTETTSALITPEGDDK 360
DB 301 ELLDKYDLSNLVEIASGAPLSKEIGAVARRNLPVGVQGLTETTSALITPEGDDK 360
QY 361 PGASGKVVPLFAKAKVIDLDTKTLGPNRRGEVCVKGPMLMKGYVDNPEATREIIDEGWL 420
DB 361 PGASGKVVPLFAKAKVIDLDTKTLGPNRRGEVCVKGPMLMKGYVDNPEATREIIDEGWL 420
QY 421 HTGDIQYDDEEHFFIVDRKLSLIKYGQVPPAELESVLLQHPNIFDAGVAGVDPDIAG 480

Db 421 HTGDIGYDEEKHFFIVDRKSLIKYKGQVPPAESVLLQHPNIFDAGVAGVDPPIAG 480
Qy 481 ELPGAVVVLKSGKMTKEVMDYVASQVSNKRLGGVRFVDEVPKGLTGKIDGKAIREI 540
Db 481 ELPGAVVVLKSGKMTKEVMDYVASQVSNKRLGGVRFVDEVPKGLTGKIDGKAIREI 540
Qy 541 LKKPVAKM 548
Db 541 LKKPVAKM 548
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US-09-838-469-27
; Sequence 27, Application US/09838469
; Publication No. US2003068801A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Hall, Mary P.
; TITLE OF INVENTION: THERMOSTABLE LUCIFERASES AND METHODS OF PRODUCTION
; FILE REFERENCE: 341.06GUS1
; CURRENT APPLICATION NUMBER: US/09/838,469
; PRIOR FILING DATE: 2001-04-19
; PRIOR APPLICATION NUMBER: US/09/156,946
; PRIOR FILING DATE: 1998-09-18
; NUMBER OF SEQ ID NOS: 41
; SOFTWARE: Patent In Ver. 2.0
; SEQ ID NO 27
; LENGTH: 548
; TYPE: PRT
; ORGANISM: Beetle
US-09-838-469-27

Query Match 95.3%; Score 2689; DB 10; Length 548;
Best Local Similarity 93.6%; Pred. No. 8.5e-252;
Matches 513; Conservative 25; Mismatches 10; Indels 0; Gaps 0;
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Db 1 MENMENDENIVGPKPFPIEGSAGTQURKYMERVAKLGAIAFNNAVGVDSYAEVLE 60
Qy 61 KSCCLGEALKNYGLVVDGRIALCSECEEFFPIVLAGLFIGVGAFTNEIYTLRELVHSL 120
Db 61 KSCCLGKALQNYGLVVDGRIALCSECEEFFPIVLAGLFIGVGAFTNEIYTLRELVHSL 120
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Db 121 GISKPTIVFSSKGLDKVITVQKTVTAITVILDSKVDRYQVQCLDTFIKNTPPGQA 180
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Db 181 SSFKTVEVDRKEQVALIMNSSGSTGLPKGVQLTHENTVTRFSGHARDPIYGNQVSPGTAVL 240
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Db 241 TVVPFHGFGMFTTGLYLTCGFRVVMLTKFDEETFLKTDYKCTSVILVPTLFAILNKS 300
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Db 301 ELLNKYDLNVLVEIASGGAPLSKEVGEAVARFNLPGVRQGYGLTETTSALIIITPEGDDK 360
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Db 361 PGASGKVVPLFAKVIDLDTKKSGLPNNRGEVCVKGPMLMKGYVNNPEATKELIIDEEGWL 420
Qy 421 HTGDIGYDEEKHFFIVDRKSLIKYKGQVPPAESVLLQHPNIFDAGVAGVDPPIAG 480
Db 421 HTGDIGYDEEKHFFIVDRKSLIKYKGQVPPAESVLLQHPNIFDAGVAGVDPPIAG 480
Qy 481 ELPGAVVVLKSGKMTKEVMDYVASQVSNKRLGGVRFVDEVPKGLTGKIDGKAIREI 540
Db 481 ELPGAVVVLKSGKMTKEVMDYVASQVSNKRLGGVRFVDEVPKGLTGKIDGKAIREI 540

Qy 541 LKKPVAKM 548
Db 541 LKKPVAKM 548
RESULT 4
US-10-378-168-27
; Sequence 27, Application US/10378168
; Publication No. US20030232404A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Hall, Mary P.
; TITLE OF INVENTION: Thermostable luciferases and methods of
; FILE REFERENCE: 341.012US1
; CURRENT APPLICATION NUMBER: US/10/378,168
; CURRENT FILING DATE: 2003-02-28
; PRIOR APPLICATION NUMBER: US/09/396,154
; PRIOR FILING DATE: 1999-09-15
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 09/156,946
; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: PCT/US98/19494
; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 60/059,379
; PRIOR FILING DATE: EARLIER FILING DATE: 1997-09-19
; NUMBER OF SEQ ID NOS: 93
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 27
; LENGTH: 548
; TYPE: PRT
; ORGANISM: Luciola cruciata
US-10-378-168-27

Query Match 95.3%; Score 2689; DB 15; Length 548;
Best Local Similarity 93.6%; Pred. No. 8.5e-252;
Matches 513; Conservative 25; Mismatches 10; Indels 0; Gaps 0;
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Db 1 MENMENDENIVGPKPFPIEGSAGTQURKYMERVAKLGAIAFNNAVGVDSYAEVLE 60
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Db 61 KSCCLGKALQNYGLVVDGRIALCSECEEFFPIVLAGLFIGVGAFTNEIYTLRELVHSL 120
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Db 121 GISKPTIVFSSKGLDKVITVQKTVTAITVILDSKVDRYQVQCLDTFIKNTPPGQA 180
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Db 181 SSFKTVEVDRKEQVALIMNSSGSTGLPKGVQLTHENTVTRFSGHARDPIYGNQVSPGTAVL 240
Qy 241 TVVPFHGFGMFTTGLYLTCGFRIVMLTKFDEETFLKTDYKCSSVILVPTLFAILNRS 300
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Qy 301 ELLDKYDLNVLVEIASGGAPLSKEIGEAVARFNLPGVRQGYGLTETTSALIIITPEGDDK 360
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Qy 361 PGASGKVVPLFAKVIDLDTKKTLPNNRGEVCVKGPMLMKGYVNDNPEATREIIDEEGWL 420
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Qy 421 HTGDIGYDEEKHFFIVDRKSLIKYKGQVPPAESVLLQHPNIFDAGVAGVDPPIAG 480
Db 421 HTGDIGYDEEKHFFIVDRKSLIKYKGQVPPAESVLLQHPNIFDAGVAGVDPPIAG 480
Qy 481 ELPGAVVVLKSGKMTKEVMDYVASQVSNKRLGGVRFVDEVPKGLTGKIDGKAIREI 540
Db 481 ELPGAVVVLKSGKMTKEVMDYVASQVSNKRLGGVRFVDEVPKGLTGKIDGKAIREI 540

Qy 541 LKCPVAKM 548
| | | | |
Db 541 LKCPVAKM 548

RESULT 5

US-09-838-469-29
; Sequence 29, Application US/09838469
; Publication No. US20030068801A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Hall, Mary P.
; APPLICANT: Promega Corporation
; TITLE OF INVENTION: THERMOSTABLE LUCIFERASES AND METHODS OF PRODUCTION
; FILE REFERENCE: 341.006051
; CURRENT APPLICATION NUMBER: US/09/838,469
; PRIOR FILING DATE: 2001-04-19
; PRIOR APPLICATION NUMBER: US/09/156,946
; PRIOR FILING DATE: 1998-09-18
; NUMBER OF SEQ ID NOS: 41
; SOFTWARE: PatentIn ver. 2.0
; SEQ ID NO 29
; LENGTH: 548
; TYPE: PRT
; ORGANISM: Beetle
US-09-838-469-29

Query Match 83.0%; Score 2344.5; DB 10; Length 548;
Best Local Similarity 82.1%; Pred. No. 2.5e-218;
Matches 448; Conservative 46; Mismatches 51; Indels 1; Gaps 1;
Qy 4 MENDENIVGPEPPYPIEESGAGALRKYMDRYAKLGAIAFTNALGVDTVAEYLEKSC 63
Db 3 MEKEENVVYGLPFYPIEESGAGIQLHKYHQVAKLGAIAFNSALTVDSIQEYFDITC 62
Qy 64 CLGALKNYGLVVDGRIALCSENCEEFFIPVLAGLFIGVGVAPTNEIYTLRELVHSLGTS 123
Db 63 RLAEAMKNFGKMBEHIHALCSENCEEFFIPVLAGLFIGVGVAPTNEIYTLRELHNSLGIA 122
Qy 124 KPTIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGVQSDMNFIKKNTPOGEGKSSF 183
Db 123 OPTIVFSSRGLPKVLEQVKTVCICKIVILDSKVNFGGHCMTETFIKKHVELGQPSF 182
Qy 184 KTVEV-NRKEQVALIMNSGSGTGLPKGVQLTHENAVTRFESHARDPIYGNQVSPGTAITLV 242
Db 183 VPIDVKNRKQHVALLMNSGSGTGLPKGVRITHEGAVTRFESHAKDPIYGNQVSPGTAITLV 242
Qy 243 VPFHGGFMFTTLYLTCGRIYMLTKFDEBETPLKTLQDYKCSSVILVPTLFAILNRSEL 302
Db 243 VPFHGGFMFTTLYGACGVYVVMVTKFDEELFURLTQDYKCTSVILVPTLFAILNRSEL 302
Qy 303 LDKYDLSNLVEIASGGAPLSKEIGEAARRFNLPVGRQGVGLTETTSALITPEGDDKPG 362
Db 303 IDKFDLSNLTEIASGGAPLAKVEGEAARRFNLPVGRQGVGLTETTSALITPEGDDKPG 362
Qy 363 ASGVVPLFKAVIDLTKTTLGNRRGEVCVKGPMKMGYVDNPEATREIIDEGWLHT 422
Db 363 ASGVVPLFKVVIDLTKTTLGNRRGEICVKGPSLMGLYSNNPEATRETIIDEGWLHT 422
Qy 423 GDIGYDDEBKHFFIVDRLSLIIKYGVQVPPAELESVLLQHPNIFDAGVAGVDPDPAGEL 482
Db 423 GDIGYDDEBHHFIVDRLSLIIKYGVQVPPAELESVLLQHPNIFDAGVAGVDPDPAGEL 482
Qy 483 PGAVVLEKSGMTEKEVMDYVASQVSNARLGGVRFVDEVPKGLTGKIDGKAIREILK 542
Db 483 PGAVVMEKGMTKEIKVIDVYNSQVNVNHRKLRGGVRFVDEVPKGLTGKIDAKVIREILK 542
Qy 543 KPQAKM 548
| | | | |
Db 543 KPQAKM 548

RESULT 6

US-10-378-168-29
; Sequence 29, Application US/10378168
; Publication No. US20030232404A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Hall, Mary P.
; TITLE OF INVENTION: Thermostable luciferases and methods of
; TITLE OF INVENTION: production
; FILE REFERENCE: 341.012US1
; CURRENT APPLICATION NUMBER: US/10/378,168
; CURRENT FILING DATE: 2003-02-28
; PRIOR APPLICATION NUMBER: US/09/396,154
; PRIOR FILING DATE: 1999-09-15
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 09/156,946
; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: PCT/US98/19494
; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 60/059,379
; PRIOR FILING DATE: EARLIER FILING DATE: 1997-09-19
; NUMBER OF SEQ ID NOS: 93
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 29
; LENGTH: 548
; TYPE: PRT
; ORGANISM: Luciola mingrelia
US-10-378-168-29

Query Match 83.0%; Score 2344.5; DB 15; Length 548;
Best Local Similarity 82.1%; Pred. No. 2.5e-218;
Matches 448; Conservative 46; Mismatches 51; Indels 1; Gaps 1;
Qy 4 MENDENIVGPEPPYPIEESGAGALRKYMDRYAKLGAIAFTNALGVDTVAEYLEKSC 63
Db 3 MEKEENVVYGLPFYPIEESGAGIQLHKYHQVAKLGAIAFNSALTVDSIQEYFDITC 62
Qy 64 CLGALKNYGLVVDGRIALCSENCEEFFIPVLAGLFIGVGVAPTNEIYTLRELVHSLGTS 123
Db 63 RLAEAMKNFGKMBEHIHALCSENCEEFFIPVLAGLFIGVGVAPTNEIYTLRELHNSLGIA 122
Qy 124 KPTIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGVQSDMNFIKKNTPOGEGKSSF 183
Db 123 OPTIVFSSRGLPKVLEQVKTVCICKIVILDSKVNFGGHCMTETFIKKHVELGQPSF 182
Qy 184 KTVEV-NRKEQVALIMNSGSGTGLPKGVQLTHENAVTRFESHARDPIYGNQVSPGTAITLV 242
Db 183 VPIDVKNRKQHVALLMNSGSGTGLPKGVRITHEGAVTRFESHAKDPIYGNQVSPGTAITLV 242
Qy 243 VPFHGGFMFTTLYLTCGRIYMLTKFDEBETPLKTLQDYKCSSVILVPTLFAILNRSEL 302
Db 243 VPFHGGFMFTTLYGACGVYVVMVTKFDEELFURLTQDYKCTSVILVPTLFAILNRSEL 302
Qy 303 LDKYDLSNLVEIASGGAPLSKEIGEAARRFNLPVGRQGVGLTETTSALITPEGDDKPG 362
Db 303 IDKFDLSNLTEIASGGAPLAKVEGEAARRFNLPVGRQGVGLTETTSALITPEGDDKPG 362
Qy 363 ASGVVPLFKAVIDLTKTTLGNRRGEVCVKGPMKMGYVDNPEATREIIDEGWLHT 422
Db 363 ASGVVPLFKVVIDLTKTTLGNRRGEICVKGPSLMGLYSNNPEATRETIIDEGWLHT 422
Qy 423 GDIGYDDEBKHFFIVDRLSLIIKYGVQVPPAELESVLLQHPNIFDAGVAGVDPDPAGEL 482
Db 423 GDIGYDDEBHHFIVDRLSLIIKYGVQVPPAELESVLLQHPNIFDAGVAGVDPDPAGEL 482
Qy 483 PGAVVLEKSGMTEKEVMDYVASQVSNARLGGVRFVDEVPKGLTGKIDGKAIREILK 542
Db 483 PGAVVMEKGMTKEIKVIDVYNSQVNVNHRKLRGGVRFVDEVPKGLTGKIDAKVIREILK 542
Qy 543 KPQAKM 548
| | | | |
Db 543 KPQAKM 548

RESULT 7

[illegible]

```

; APPLICANT: Miller, Charles E.
; APPLICANT: Gerlach, Valerie
; APPLICANT: Taupier Jr, Raymond J.
; APPLICANT: Gusev, Vladimir Y.
; APPLICANT: Colman, Steven D.
; APPLICANT: Wolenc, Adam R.
; APPLICANT: Pena, Carol E. A
; APPLICANT: Furtak, Katarzyna
; APPLICANT: Grosse, William M.
; APPLICANT: Alsobrook II, John P.
; APPLICANT: Lepley, Denise M.
; APPLICANT: Rieger, Daniel K.
; APPLICANT: Burgess, Catherine E.
; TITLE OF INVENTION: Proteins and Nucleic Acids Encoding Same
; FILE REFERENCE: 21402-258
; CURRENT APPLICATION NUMBER: US/10/072,012
; CURRENT FILING DATE: 2002-01-31
; PRIOR APPLICATION NUMBER: 60/265,102
; PRIOR FILING DATE: 2001-01-30
; PRIOR APPLICATION NUMBER: 60/265,514
; PRIOR FILING DATE: 2001-01-31
; PRIOR APPLICATION NUMBER: 60/266,517
; PRIOR FILING DATE: 2001-01-31
; PRIOR APPLICATION NUMBER: 60/265,412
; PRIOR FILING DATE: 2001-01-31
; PRIOR APPLICATION NUMBER: 60/265,395
; PRIOR FILING DATE: 2001-01-31
; PRIOR APPLICATION NUMBER: 60/266,406
; PRIOR FILING DATE: 2001-02-02
; PRIOR APPLICATION NUMBER: 60/266,767
; PRIOR FILING DATE: 2001-02-05
; PRIOR APPLICATION NUMBER: 60/267,057
; PRIOR FILING DATE: 2001-02-07
; PRIOR APPLICATION NUMBER: 60/266,975
; PRIOR FILING DATE: 2001-02-07
; PRIOR APPLICATION NUMBER: 60/267,459
; PRIOR FILING DATE: 2001-02-08
; Remaining Prior Application data removed - See File Wrapper or PALM.
; NUMBER OF SEQ ID NOS: 1391
; SOFTWARE: Patent in Ver. 2.1
; SEQ ID NO 328
; LENGTH: 975
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: Synthetic
; OTHER INFORMATION: Construct
; US-10-072-012-329

Query Match 69.6%; Score 1965.5; DB 12; Length 975;
Best Local Similarity 68.9%; Pred. No. 4.3e-181;
Matches 373; Conservative 73; Mismatches 94; Indels 1; Gaps 1;

QY 4 MENDENIVGPEFFPIEBSGAGALRKYMDRYAKL-GAIAFTNALTGVDYTYAEVLEKS 62
Db 426 MEDAKNIKGPAPFYPLEDGTAGEQLHKAMKRYALVPGTIAFTDAHIEVNIYAEYFMS 485
QY 63 CCIGALKNKGLVVDGRIALCSECEFFPIVLAGLFIGVGVAPNTNEIYTLSELVHSLG 122
Db 486 VRLAEAMKRYGLNTNRIIVVCSNSLQFFMPVLGALFIGVAVAPANDIYNRELLNSMGI 545
QY 123 SKPTIVFSSKKGDKVITVQKTVAIKTIVILDSKYDVRGYQSMONFIKNTFPQGFKGS 182
Db 546 SQFTVVFSVSKGQKILNVQKLPITIKIIIMDSKTDYQGFQSMYTFVTSHLPFGNEYD 605
QY 183 FKTVEVNRKEQVALIMNSSGSTGLPKGVOLTHENAVTRFESHARDPIYGNQVSPGTAITV 242
Db 606 FVPESEFDRDKTIALIMNSSGSTGLPKGVALPHRTACVRFESHARDPIFGNQIIPDTAILSV 665
QY 243 VPPHHGFGMTTLGILTCGFRIYVMTLKFEDETFKLTQDYKCSSVILVPTLFAILNRSEL 302
Db 666 VPPHHGFGMTTLGILTCGFRIYVMTLKFEDETFKLTQDYKCSSVILVPTLFAILNRSEL 302

; APPLICANT: Morphotek Inc.
; APPLICANT: Grasso, Luigi
; APPLICANT: Kline, J. Bradford
; APPLICANT: Nicolaides, Nicholas C.
; APPLICANT: Sasse, Philip M.
; TITLE OF INVENTION: Method for Generating Engineered Cells for Locus Specific Gene
; FILE REFERENCE: MG0003 US (MOR-0140)
; CURRENT APPLICATION NUMBER: US/10/348,074
; CURRENT FILING DATE: 2003-01-17
; PRIOR APPLICATION NUMBER: 60/349,565
; PRIOR FILING DATE: 2002-01-18
; NUMBER OF SEQ ID NOS: 47
; SOFTWARE: Patent in version 3.2
; SEQ ID NO 47
; LENGTH: 895
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Chimera: Luc from Photinus pyralis; HYG from Escherichia coli
; US-10-348-074-47

Query Match 69.4%; Score 1960.5; DB 14; Length 895;
Best Local Similarity 68.6%; Pred. No. 1.1e-180;
Matches 372; Conservative 74; Mismatches 95; Indels 1; Gaps 1;

QY 3 NMENDENIVGPEFFPIEBSGAGALRKYMDRYAKL-GAIAFTNALTGVDYTYAEVLEK 61
Db 345 NMEDAKNIKGPAPFYPLEDGTAGEQLHKAMKRYALVPGTIAFTDAHIEVNIYAEYFEM 404
QY 62 CCIGALKNKGLVVDGRIALCSECEFFPIVLAGLFIGVGVAPNTNEIYTLSELVHSLG 121
Db 405 SVRLAEAMKRYGLNTNRIIVVCSNSLQFFMPVLGALFIGVAVAPANDIYNRELLNSMN 464
QY 122 ISKPTIVFSSKKGDKVITVQKTVAIKTIVILDSKYDVRGYQSMONFIKNTFPQGFKGS 181
Db 465 ISQFTVVFSVSKGQKILNVQKLPITIKIIIMDSKTDYQGFQSMYTFVTSHLPFGNEY 524
QY 182 SKFTVEVNRKEQVALIMNSSGSTGLPKGVOLTHENAVTRFESHARDPIYGNQVSPGTAITV 241
Db 525 DFVPESEFDRDKTIALIMNSSGSTGLPKGVALPHRTACVRFESHARDPIFGNQIIPDTAILS 584
QY 242 VPPHHGFGMTTLGILTCGFRIYVMTLKFEDETFKLTQDYKCSSVILVPTLFAILNRSE 301
Db 585 VPPHHGFGMTTLGILTCGFRIYVMTLKFEDETFKLTQDYKCSSVILVPTLFAILNRSE 301
QY 302 LLDKYDLSNLVEIASGGAPLSKEIGEAVARRFNLPGVRQGYGLTETTSAILIITPEGDDKP 361

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Db 645 LDKYDLSNLHIAAGAPLSKEVEAVAKRPHLPGLRQGGYGLTETTSAILITPEGDDKP 704
Qy 362 GASGVVPLFKAKVIDLDTFKXTLGNRRGEVVCVKGPMKMGVVDPEATRIIIBEGWLH 421
Db 705 GAVGVVPPFEAKVVDLDTGKTGLGNQRGELCVRGPMISGYVNNPEATNALIDKDWLH 764
Qy 422 TGDIGYDEKHEFFIVDRKLSLIIKYGQVPPAELESVLLQHPNIFDAGVAGVDPPIAGE 481
Db 765 SGDIAYWDEDEFFIVDRKLSLIIKYGQVPPAELESVLLQHPNIFDAGVAGLPPDDAGE 824
Qy 482 LPGAVVLEKSGMTEKEVMDYVASQVSNAKRLGGVRFVDEVPKGLTGKIDGKAIREIL 541
Db 825 LPAAVVVLEHGXTMTEKEIVDVVASQVTTAKKLRGGVVFVDEVPKGLTGKIDKARKIREIL 884
Qy 542 KK 543
Db 885 IK 886
RESULT 11
US-09-838-469-31
; Sequence 31, Application US/09838469
; Publication No. US20030068801A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Promega Corporation
; TITLE OF INVENTION: THERMOSTABLE LUCIFERASES AND METHODS OF PRODUCTION
; FILE REFERENCE: 341.00GUS1
; CURRENT APPLICATION NUMBER: US/09/838,469
; CURRENT FILING DATE: 2001-04-19
; PRIOR APPLICATION NUMBER: US/09/156,946
; PRIOR FILING DATE: 1998-09-18
; NUMBER OF SEQ ID NOS: 41
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 31
; LENGTH: 550
; TYPE: PRT
; ORGANISM: Beetle
US-09-838-469-31
Query Match 69.2%; Score 1954.5; DB 10; Length 550;
Best Local Similarity 68.6%; Pred. No. 2e-180;
Matches 371; Conservative 74; Mismatches 95; Indels 1; Gaps 1;
Qy 4 MENDENIVGPPFPPIEBGAGALRYKMDRYAKL-GAIAFTNALTGVDVITYAEYLEKS 62
Db 1 MEDAKNIKKGPAPPFPLEDGTAGEQLHKAMKRYALVPGTIAFTDAHIEVNTIYAEYFEMS 60
Qy 63 CCLGEALKNYGLVVDGRICALSCENCEBFPVLAGLFTGVGVAPTNEIYTLRELVHSLGI 122
Db 61 VRLAEAMKRYGLNTHRIIVVCSNSLQFFMPVILGALF:GVAVAPANDIYNERELNSMNI 120
Qy 123 SKPTIVFSSKKGLDKVITVQKTVAIKTIVILDSKVDYRGYSMDNFIKQNTPOGFKSS 182
Db 121 SPTVVFVSKKGLKILNVQKLP:IIQKIIIMDSKTDYQGFQSMYTFVTSHLPFGFNEYD 180
Qy 183 FKTIVNKRKEQVALIMNSGSGTGLPKGVOLTHENAVTRFESHARDPIYGNQVSPGTAILTV 242
Db 181 FVPEFDRDKTIALIMNSGSGTGLPKGVALLPHTACVRFSHARDPIFGNQIIPDAILSV 240
Qy 243 VPFHGFGMFTTLYLTGCGFRIVMLTKDEETFLKTDYKCSSVILNPTLFAILNSEL 302
Db 241 VPFHGFGMFTTLYLTGCGFRVLMYRFEELFLRSQDYKIQSALLVPTLFFAKSTL 300
Qy 303 LDKYDLSNLVEIASGAPLSKEIGAVARRNPLPGVRQGYGLTETTSAILITPEGDDKPG 362
Db 241 VPFHGFGMFTTLYLTGCGFRVLMYRFEELFLRSQDYKIQSALLVPTLFFAKSTL 300
Qy 303 LDKYDLSNLVEIASGAPLSKEIGAVARRNPLPGVRQGYGLTETTSAILITPEGDDKPG 362
Db 301 IDKYDLSNLHIEIASGAPLSKEVGEAVAKRPHLPGLRQGGYGLTETTSAILITPEGDDKPG 360
Qy 363 ASGKVVPFLFKAKVIDLDTFKXTLGNRRGEVVCVKGPMKMGVVDPEATRIIIBEGWLH 422
Db 361 AVGVVPPFEAKVVDLDTGKTGLGNQRGELCVRGPMISGYVNNPEATNALIDKDWLH 420

Qy 423 GDTGYDEKHEFFIVDRKLSLIIKYGQVPPAELESVLLQHPNIFDAGVAGVDPPIAGE 482
Db 421 GDIAWDEDEFFIVDRKLSLIIKYGQVPPAELESVLLQHPNIFDAGVAGLPPDDAGE 480
Qy 483 PGAVVLEKSGMTEKEVMDYVASQVSNAKRLGGVRFVDEVPKGLTGKIDGKAIREILK 542
Db 481 PAAVVVLEHGXTMTEKEIVDVVASQVTTAKKLRGGVVFVDEVPKGLTGKIDKARKIREIL 540
Qy 543 K 543
Db 541 K 541
RESULT 12
US-10-348-074-34
; Sequence 34, Application US/10348074
; Publication No. US20030176386A1
; GENERAL INFORMATION:
; APPLICANT: Morphotek Inc.
; APPLICANT: Grasso, Luigi
; APPLICANT: Kline, J. Bradford
; APPLICANT: Nicolaides, Nicholas C.
; APPLICANT: Sasse, Philip M.
; TITLE OF INVENTION: Method for Generating Engineered Cells for Locus Specific Gene
; FILE REFERENCE: MG0003 US (MOR-0140)
; CURRENT APPLICATION NUMBER: US/10/348,074
; CURRENT FILING DATE: 2003-01-17
; PRIOR APPLICATION NUMBER: 60/349,565
; PRIOR FILING DATE: 2002-01-18
; NUMBER OF SEQ ID NOS: 47
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 34
; LENGTH: 550
; TYPE: PRT
; ORGANISM: Photinus pyralis
US-10-348-074-34
Query Match 69.2%; Score 1954.5; DB 14; Length 550;
Best Local Similarity 68.6%; Pred. No. 2e-180;
Matches 371; Conservative 74; Mismatches 95; Indels 1; Gaps 1;
Qy 4 MENDENIVGPPFPPIEBGAGALRYKMDRYAKL-GAIAFTNALTGVDVITYAEYLEKS 62
Db 1 MEDAKNIKKGPAPPFPLEDGTAGEQLHKAMKRYALVPGTIAFTDAHIEVNTIYAEYFEMS 60
Qy 63 CCLGEALKNYGLVVDGRICALSCENCEBFPVLAGLFTGVGVAPTNEIYTLRELVHSLGI 122
Db 61 VRLAEAMKRYGLNTHRIIVVCSNSLQFFMPVILGALF:GVAVAPANDIYNERELNSMNI 120
Qy 123 SKPTIVFSSKKGLDKVITVQKTVAIKTIVILDSKVDYRGYSMDNFIKQNTPOGFKSS 182
Db 121 SPTVVFVSKKGLKILNVQKLP:IIQKIIIMDSKTDYQGFQSMYTFVTSHLPFGFNEYD 180
Qy 183 FKTIVNKRKEQVALIMNSGSGTGLPKGVOLTHENAVTRFESHARDPIYGNQVSPGTAILTV 242
Db 181 FVPEFDRDKTIALIMNSGSGTGLPKGVALLPHTACVRFSHARDPIFGNQIIPDAILSV 240
Qy 243 VPFHGFGMFTTLYLTGCGFRIVMLTKDEETFLKTDYKCSSVILNPTLFAILNSEL 302
Db 241 VPFHGFGMFTTLYLTGCGFRVLMYRFEELFLRSQDYKIQSALLVPTLFFAKSTL 300
Qy 303 LDKYDLSNLVEIASGAPLSKEIGAVARRNPLPGVRQGYGLTETTSAILITPEGDDKPG 362
Db 301 IDKYDLSNLHIEIASGAPLSKEVGEAVAKRPHLPGLRQGGYGLTETTSAILITPEGDDKPG 360
Qy 363 ASGKVVPFLFKAKVIDLDTFKXTLGNRRGEVVCVKGPMKMGVVDPEATRIIIBEGWLH 422
Db 361 AVGVVPPFEAKVVDLDTGKTGLGNQRGELCVRGPMISGYVNNPEATNALIDKDWLH 420
Qy 423 GDTGYDEKHEFFIVDRKLSLIIKYGQVPPAELESVLLQHPNIFDAGVAGVDPPIAGE 482

Db 421 GDIAWDEDEHFFIVDRKLSLIKYGQVAPAELESILLQHPNIFDAGVAGLPDDAGEL 480

Qy 483 PGAVVLEKSKMTEKEVMDYVASQVSNKRLRGVRFVDEVPKGLTGKIDGKAIREILK 542

Db 481 PAAVVVLEHGKMTKEIEIVDVYASQVTTAKKLRGGVVFVDEVPKGLTGKIDARKIREILI 540

Qy 543 K 543

Db 541 K 541

RESULT 13

US-10-378-168-31

; Sequence 31, Application US/10378168

; Publication No. US2003032404A1

; GENERAL INFORMATION:

; APPLICANT: Wood, Keith V.

; APPLICANT: Hall, Mary P.

; TITLE OF INVENTION: Thermostable luciferases and methods of

; FILE REFERENCE: 341.012US1

; CURRENT APPLICATION NUMBER: US/10/378,168

; PRIOR FILING DATE: 2003-02-28

; PRIOR APPLICATION NUMBER: US/09/396,154

; PRIOR FILING DATE: 1999-09-15

; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 09/156,946

; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18

; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: PCT/US98/19494

; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18

; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 60/059,379

; PRIOR FILING DATE: EARLIER FILING DATE: 1997-09-19

; NUMBER OF SEQ ID NOS: 93

; SOFTWARE: FastSeq for Windows Version 3.0

; SEQ ID NO 31

; LENGTH: 550

; TYPE: PRT

; ORGANISM: Photinus pyralis

US-10-378-168-31

Query Match 69.2%; Score 1954.5; DB 15; Length 550;

Best Local Similarity 68.6%; Pred. No. 2e-180;

Matches 371; Conservative 74; Mismatches 95; Indels 1; Gaps 1;

Qy 4 MENDENIVGPEPPIEBSAGAKRYKMDRYAKL-GAIAFTNALTGVDYTYAEYLEKS 62

Db 1 MEDAKNIKKGPAPFPLEDTAGEQLHKAKRYALVPGTIAFTDAHIEVNTIYAEYFEMS 60

Qy 63 CCLGEALKNYGLVVDGRIALCSENEEFFIPVLGLFIGVGVAPTNEIYTLRELVSGLI 122

Db 61 VRLAEAKRYGLNTNRIIVVCSNSLQFPVPLGALFIGVAVAPANDIYNERELNSMNI 120

Qy 123 SKPTIVFSSKGLDKVITVQKTTAIIKTIIVLDSKVDYRGYQSMDFIKKNTPOQFGKSS 182

Db 121 SQPTVVFVSKGLQILNKVKKLPPIQKIIIMDSKTDYQFQSMYTFVTSHLPFGNEVD 180

Qy 183 PKTVEVNRKEQVALIMNSGSLPKGVOLTHENAVTRFESHARDPIYGNQVSPGTAITV 242

Db 181 FVPSFDRKTIALLIMNSGSLPKGVOLPHRTACVRFESHARDPIFGNIIPDTAILSV 240

Qy 243 VPFHGFGMFTTLGYLTGCGFRIVMLTKFDEETFLKTLQDYKCSSVILVPTLFAINREL 302

Db 241 VPFHGFGMFTTLGYLTGCGFRIVMLTKFDEETFLKTLQDYKCSSVILVPTLFAINREL 300

Qy 303 LDKYDLSNLVEIASGAPLSKEIGAVARFNLPGVRQGYGLTETTSAILIITPEGDDKPG 362

Db 301 IDKYDLSNLVEIASGAPLSKEIGAVARFNLPGVRQGYGLTETTSAILIITPEGDDKPG 360

Qy 363 ASGWVPLFKAKVIDLDTKTKTLGNRRGEVCVGPMLKMGYVNDPEATREIIDEEGWLHT 422

Db 361 AVGVVPPFFFAKVVLDLTGKTLGNQKGLCVRGPMIMSGYVNNPEATNALIDKDWLHS 420

Qy 423 GDIGYDDEKHFFIVDRKLSLIKYGQVAPAELESILLQHPNIFDAGVAGLPDDAGEL 482

Db 421 GDIAWDEDEHFFIVDRKLSLIKYGQVAPAELESILLQHPNIFDAGVAGLPDDAGEL 480

Qy 483 PGAVVLEKSKMTEKEVMDYVASQVSNKRLRGVRFVDEVPKGLTGKIDGKAIREILK 542

Db 481 PAAVVVLEHGKMTKEIEIVDVYASQVTTAKKLRGGVVFVDEVPKGLTGKIDARKIREILI 540

Qy 543 K 543

Db 541 K 541

RESULT 14

US-10-122-706-4

; Sequence 4, Application US/10122706

; Publication No. US20030119012A1

; GENERAL INFORMATION:

; APPLICANT: Srinivasan, Maithreya

; APPLICANT: Reifler, Michael

; TITLE OF INVENTION: Sulfurylase-Luciferase Fusion Proteins

; FILE REFERENCE: 21465-504

; CURRENT APPLICATION NUMBER: US/10/122,706

; CURRENT FILING DATE: 2002-07-01

; PRIOR APPLICATION NUMBER: 60/335,949

; PRIOR FILING DATE: 2001-10-30

; NUMBER OF SEQ ID NOS: 31

; SOFTWARE: PatentIn Ver. 2.1

; SEQ ID NO 4

; LENGTH: 1172

; TYPE: PRT

; ORGANISM: Escherichia coli

US-10-122-706-4

Query Match 69.2%; Score 1954.5; DB 14; Length 1172;

Best Local Similarity 68.6%; Pred. No. 6.9e-180;

Matches 371; Conservative 74; Mismatches 95; Indels 1; Gaps 1;

Qy 4 MENDENIVGPEPPIEBSAGAKRYKMDRYAKL-GAIAFTNALTGVDYTYAEYLEKS 62

Db 109 MEDAKNIKKGPAPFPLEDTAGEQLHKAKRYALVPGTIAFTDAHIEVNTIYAEYFEMS 168

Qy 63 CCLGEALKNYGLVVDGRIALCSENEEFFIPVLGLFIGVGVAPTNEIYTLRELVSGLI 122

Db 169 VRLAEAKRYGLNTNRIIVVCSNSLQFPVPLGALFIGVAVAPANDIYNERELNSMNI 228

Qy 123 SKPTIVFSSKGLDKVITVQKTTAIIKTIIVLDSKVDYRGYQSMDFIKKNTPOQFGKSS 182

Db 229 SQPTVVFVSKGLQILNKVKKLPPIQKIIIMDSKTDYQFQSMYTFVTSHLPFGNEVD 288

Qy 183 PKTVEVNRKEQVALIMNSGSLPKGVOLTHENAVTRFESHARDPIYGNQVSPGTAITV 242

Db 289 FVPSFDRKTIALLIMNSGSLPKGVOLPHRTACVRFESHARDPIFGNIIPDTAILSV 348

Qy 243 VPFHGFGMFTTLGYLTGCGFRIVMLTKFDEETFLKTLQDYKCSSVILVPTLFAINREL 302

Db 349 VPFHGFGMFTTLGYLTGCGFRIVMLTKFDEETFLKTLQDYKCSSVILVPTLFAINREL 408

Qy 303 LDKYDLSNLVEIASGAPLSKEIGAVARFNLPGVRQGYGLTETTSAILIITPEGDDKPG 362

Db 409 IDKYDLSNLVEIASGAPLSKEIGAVARFNLPGVRQGYGLTETTSAILIITPEGDDKPG 468

Qy 363 ASGWVPLFKAKVIDLDTKTKTLGNRRGEVCVGPMLKMGYVNDPEATREIIDEEGWLHT 422

Db 469 AVGVVPPFFFAKVVLDLTGKTLGNQKGLCVRGPMIMSGYVNNPEATNALIDKDWLHS 528

Qy 423 GDIGYDDEKHFFIVDRKLSLIKYGQVAPAELESILLQHPNIFDAGVAGLPDDAGEL 482

Db 529 GDIAWDEDEHFFIVDRKLSLIKYGQVAPAELESILLQHPNIFDAGVAGLPDDAGEL 588

Qy 483 PGAVVLEKSKMTEKEVMDYVASQVSNKRLRGVRFVDEVPKGLTGKIDGKAIREILK 542

Db 589 PAAVVVLEHGKMTKEIEIVDVYASQVTTAKKLRGGVVFVDEVPKGLTGKIDARKIREILI 648

Qy 543 K 543

; CURRENT APPLICATION NUMBER: US/09/838,469
 ; CURRENT FILING DATE: 2001-04-19
 ; PRIOR APPLICATION NUMBER: US/09/156,946
 ; PRIOR FILING DATE: 1998-09-18
 ; NUMBER OF SEQ ID NOS: 41
 ; SOFTWARE: Patentin Ver. 2.0
 ; SEQ ID NO 33
 ; LENGTH: 552
 ; TYPE: PRT
 ; ORGANISM: Beetle
 ; US-09-838-469-33

Query Match		64.8%	Score 1828;	DB 10;	Length 552;
Best Local Similarity		62.5%	Pred. No. 3.8e-168;		
Matches 338;		Conservative 92;	Mismatches 109;	Indels 2;	Gaps 2;

QY	4	MENDENIVGPEPFPIEGSAGALRYKMDRYAKL-GAIAFTNALTGVDVYAEYLEKS	62
DB	1	MSIENNILGPPPPYPLEEGTAGELHRAISRYAAVPGTLAYDVHTELEVYKEFLDVT	60

QY	63	CCLGEALKNYGLVVDGRIALCSENCEEFFIPVLAGLFIGVGVAPTNEIYTLRELHVSIGI	122
DB	61	CRLEAEMKNYGLGLOHTISVCSENCVOFFMPICAAALYVGAVATPNDIYNERELYNLSI	120

QY	123	SKPTIVFSSKGLDKVITVQKTVAIKTIVILDSKVDYRGYQSMDFIKNTPOGFKGSS	182
DB	121	SQPTVVFTSRNSLQKILGVQSRPLIKIIIDGKKDYLGYSQSMQFMKEHVPAFNVSA	180

QY	183	FKTVEVNRKEQVALIMNWSGSGTGLPKGVQLTHENAVTRFSHARDPIYGNQVSPGTAILTV	242
DB	181	FKPLSFD-LDRVACIMNWSGSGTGLPKGVPISHRENTIYRFSHCRDPVFGNQIIPDTILCA	239

QY	243	VPHHFGMTTGLYTCGFRIVMLTKFDEETFLKLDYKSSVILVPTLFAILNRSEL	302
DB	240	VPHHAFGTFTNLGYLICGFHVLMYRFNEHLFLQTLQDYKQCSALLVPTVLAFIAKAPL	299

QY	303	LDRYDLSNLVEIASGAPLSKEIAGEAVARRFNLPGVRQGYGTETTSALIIITPEGDDKPG	362
DB	300	VDKYDLSNLHEIASGAPLSKEIASEIAAKRFKLPGRQGYGTETTCALIVITAEGBFKLG	359

QY	363	ASGVVPLFAKVIDLDTKTLGPNRRGEVCKVGMKMGYVDNPEATREIIDEGWLHT	422
DB	360	AVGWVFPYSLKVLDTNKGKLPNERGEICFKGPMIMKGYINNPEATRELIDEGWTHS	419

QY	423	GDIGYDEEKEHFTVDRKSLIKYKGYQVPPAELESVLLQHPNIPDAGVAGVDPDIAGEL	482
DB	420	GDIGYFDEGHVIVDRKSLIKYKGYQVPPAELEALLQHPFIEDAGVAGVDEVAGDL	479

QY	483	PGAVVLEKGSMTKEVMDYVASQVSNARLGGVRFVDEVPKGLTGKIDGKAIREILK	542
DB	480	PGAVVLEKGSITEKEIQDYVAGQVTSKLLRGVFEVKEVPGTGTIDTRKIKEILI	539

QY	543	K 543
DB	540	K 540

RESULT 18

US-10-378-168-33
 ; Sequence 33, Application US/10378168
 ; Publication No. US20030232404A1
 ; GENERAL INFORMATION:
 ; APPLICANT: Wood, Keith V.
 ; APPLICANT: Hall, Mary P.
 ; TITLE OF INVENTION: Thermostable luciferases and methods of
 ; production
 ; FILE REFERENCE: 341.012US1
 ; CURRENT APPLICATION NUMBER: US/10/378,168
 ; CURRENT FILING DATE: 2003-02-28
 ; PRIOR APPLICATION NUMBER: US/09/396,154
 ; PRIOR FILING DATE: 1999-09-15
 ; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 09/156,946
 ; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18

RESULT 19

US-09-838-469-24
 ; Sequence 24, Application US/09838469
 ; Publication No. US2003006801A1
 ; GENERAL INFORMATION:
 ; APPLICANT: Wood, Keith V.
 ; APPLICANT: Hall, Mary P.
 ; TITLE OF INVENTION: THERMOSTABLE LUCIFERASES AND METHODS OF PRODUCTION
 ; FILE REFERENCE: 341.006US1
 ; CURRENT APPLICATION NUMBER: US/09/838,469
 ; CURRENT FILING DATE: 2001-04-19
 ; PRIOR APPLICATION NUMBER: US/09/156,946
 ; PRIOR FILING DATE: 1998-09-18
 ; NUMBER OF SEQ ID NOS: 41
 ; SOFTWARE: Patentin Ver. 2.0

; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: PCT/US98/19494
 ; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
 ; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 60/059,379
 ; PRIOR FILING DATE: EARLIER FILING DATE: 1997-09-19
 ; NUMBER OF SEQ ID NOS: 93
 ; SOFTWARE: Fast-Seq for Windows Version 3.0
 ; SEQ ID NO 33
 ; LENGTH: 552
 ; TYPE: PRT
 ; ORGANISM: Photuris pennsylvanica
 ; US-10-378-168-33

Query Match		64.8%	Score 1828;	DB 15;	Length 552;
Best Local Similarity		62.5%	Pred. No. 3.8e-168;		
Matches 338;		Conservative 92;	Mismatches 109;	Indels 2;	Gaps 2;

QY	4	MENDENIVGPEPFPIEGSAGALRYKMDRYAKL-GAIAFTNALTGVDVYAEYLEKS	62
DB	1	MSIENNILGPPPPYPLEEGTAGELHRAISRYAAVPGTLAYDVHTELEVYKEFLDVT	60

QY	63	CCLGEALKNYGLVVDGRIALCSENCEEFFIPVLAGLFIGVGVAPTNEIYTLRELHVSIGI	122
DB	61	CRLEAEMKNYGLGLOHTISVCSENCVOFFMPICAAALYVGAVATPNDIYNERELYNLSI	120

QY	123	SKPTIVFSSKGLDKVITVQKTVAIKTIVILDSKVDYRGYQSMDFIKNTPOGFKGSS	182
DB	121	SQPTVVFTSRNSLQKILGVQSRPLIKIIIDGKKDYLGYSQSMQFMKEHVPAFNVSA	180

QY	183	FKTVEVNRKEQVALIMNWSGSGTGLPKGVQLTHENAVTRFSHARDPIYGNQVSPGTAILTV	242
DB	181	FKPLSFD-LDRVACIMNWSGSGTGLPKGVPISHRENTIYRFSHCRDPVFGNQIIPDTILCA	239

QY	243	VPHHFGMTTGLYTCGFRIVMLTKFDEETFLKLDYKSSVILVPTLFAILNRSEL	302
DB	240	VPHHAFGTFTNLGYLICGFHVLMYRFNEHLFLQTLQDYKQCSALLVPTVLAFIAKAPL	299

QY	303	LDRYDLSNLVEIASGAPLSKEIAGEAVARRFNLPGVRQGYGTETTSALIIITPEGDDKPG	362
DB	300	VDKYDLSNLHEIASGAPLSKEIASEIAAKRFKLPGRQGYGTETTCALIVITAEGBFKLG	359

QY	363	ASGVVPLFAKVIDLDTKTLGPNRRGEVCKVGMKMGYVDNPEATREIIDEGWLHT	422
DB	360	AVGWVFPYSLKVLDTNKGKLPNERGEICFKGPMIMKGYINNPEATRELIDEGWTHS	419

QY	423	GDIGYDEEKEHFTVDRKSLIKYKGYQVPPAELESVLLQHPNIPDAGVAGVDPDIAGEL	482
DB	420	GDIGYFDEGHVIVDRKSLIKYKGYQVPPAELEALLQHPFIEDAGVAGVDEVAGDL	479

QY	483	PGAVVLEKGSMTKEVMDYVASQVSNARLGGVRFVDEVPKGLTGKIDGKAIREILK	542
DB	480	PGAVVLEKGSITEKEIQDYVAGQVTSKLLRGVFEVKEVPGTGTIDTRKIKEILI	539

QY	543	K 543
DB	540	K 540

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; SEQ ID NO 24
; LENGTH: 544
; TYPE: PRT
; ORGANISM: Beetle
US-09-838-469-24

Query Match
  60.4%; Score 1706.5; DB 10; Length 544;
Best Local Similarity 60.6%; Pred. No. 2.4e-156;
Matches 326; Conservative 82; Mismatches 129; Indels 1; Gaps 1;

QY 7 DENIVGPEPPFYPIEGSAGAGLRKYMDRYAKL-GAIAFTNALTGVDTYVAEYLEKSCCL 65
D 3 DKNILYGPPEPPFYLEDGTAGEQMFDAISRYADIPGCIATLNAHTKENVLYEFLKLSCL 62
QY 66 GEALKNYGLVVDGRIALCSENCEEFFIPVLGLFVGVGAPVNEIYTLRELVHSLGSKP 125
D 63 AESFKYGLKQNDTIAVCSENGLQFFLVIAISYLGIIIVAPVNDKYIERLIHSLGIVKP 122
QY 126 TIVFSKKGDLKVIITVQKTVTAIKTIVILDSKVDYRGYQSMDFIKKNTPOGFKGSSPK 185
D 123 RIVFCSKNTFOKVLNVKSKLSKSIETIIILDLNEDLGGYQCLNFIQSONSDNLDVKFKP 182
QY 186 VEVNRKEQVALIMNSGSGTGLPKGVOLTHENAVTRFSEHARDPIYGNQVSPGTAILTVVPF 245
D 183 YSFNRDDQVALIMFSGSGTGLPKGVOLTHENAVTRFSEHARDPIYGNQVSPGTAILTVVPF 242
QY 246 HHGFGMTTILGYLTCGFRIVMLTKFDEETFLKTLQDYKCSSVILVPTLFAILNRSLLDK 305
D 243 HHGFGMTTILGYLTCGFRIVMLTKFDEETFLKTLQDYKCSSVILVPTLMAFLAKSALVEK 302
QY 306 YDLSNLVEIASGAPLSKEIGAVARRNLPVROGYGLTETTSAILITPEGDDKPGASG 365
D 303 YDLSHLKEIASGAPLSKEIGEMVKRFLNFRVROGYGLTETTSAVLITPKGDAKPGSGT 362
QY 366 KVPFLFKAVIDLTKTLGNRRGEVCVKGPMLMKGVVDNPEATREIIDEGWLHTGDI 425
D 363 KIVPHAVKVDPTTKILGNPEFGLYFKGPMIMKGYNNNEATKAILDNDGWLRSGLI 422
QY 426 GYDEEKHFIVDRLSKLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPPIAGELPGA 485
D 423 AYDNDGHFIVDRLSKLIKYGYQVAPAEIEGILLQHPYIVDAGVTGIPDEAAGELPAA 482
QY 486 VVLEKSKMTEKEVMDYVASOVSNKRLRGVRFVDEVPKGLTKIDGKAIREILKK 543
D 483 GVVTQTKYLNQIVQDYVASQVSTAKNLRGVRFVDEVPKGLTKIDRKLVRQMFKEK 540

RESULT 20
US-09-813-279B-2
; Sequence 2, Application US/09813279B
; Publication No. US20030104507A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith
; APPLICANT: Hannah, Rita
; APPLICANT: Moravec, Richard A
; TITLE OF INVENTION: IMPROVED METHOD FOR DETECTION OF ATP
; FILE REFERENCE: 10743/6
; CURRENT APPLICATION NUMBER: US/09/813,279B
; PRIOR FILING DATE: 2002-11-13
; PRIOR APPLICATION NUMBER: US60/269,526
; NUMBER OF SEQ ID NOS: 8
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 2
; LENGTH: 544
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Mutant of LucPpe2 luciferase
US-09-813-279B-2

Query Match
  60.4%; Score 1706.5; DB 10; Length 544;
Best Local Similarity 60.6%; Pred. No. 2.4e-156;
Matches 326; Conservative 82; Mismatches 129; Indels 1; Gaps 1;

QY 7 DENIVGPEPPFYPIEGSAGAGLRKYMDRYAKL-GAIAFTNALTGVDTYVAEYLEKSCCL 65
D 3 DKNILYGPPEPPFYLEDGTAGEQMFDAISRYADIPGCIATLNAHTKENVLYEFLKLSCL 62
QY 66 GEALKNYGLVVDGRIALCSENCEEFFIPVLGLFVGVGAPVNEIYTLRELVHSLGSKP 125
D 63 AESFKYGLKQNDTIAVCSENGLQFFLVIAISYLGIIIVAPVNDKYIERLIHSLGIVKP 122
QY 126 TIVFSKKGDLKVIITVQKTVTAIKTIVILDSKVDYRGYQSMDFIKKNTPOGFKGSSPK 185
D 123 RIVFCSKNTFOKVLNVKSKLSKSIETIIILDLNEDLGGYQCLNFIQSONSDNLDVKFKP 182
QY 186 VEVNRKEQVALIMNSGSGTGLPKGVOLTHENAVTRFSEHARDPIYGNQVSPGTAILTVVPF 245
D 183 YSFNRDDQVALIMFSGSGTGLPKGVOLTHENAVTRFSEHARDPIYGNQVSPGTAILTVVPF 242
QY 246 HHGFGMTTILGYLTCGFRIVMLTKFDEETFLKTLQDYKCSSVILVPTLFAILNRSLLDK 305
D 243 HHGFGMTTILGYLTCGFRIVMLTKFDEETFLKTLQDYKCSSVILVPTLMAFLAKSALVEK 302
QY 306 YDLSNLVEIASGAPLSKEIGAVARRNLPVROGYGLTETTSAILITPEGDDKPGASG 365
D 303 YDLSHLKEIASGAPLSKEIGEMVKRFLNFRVROGYGLTETTSAVLITPKGDAKPGSGT 362
QY 366 KVPFLFKAVIDLTKTLGNRRGEVCVKGPMLMKGVVDNPEATREIIDEGWLHTGDI 425
D 363 KIVPHAVKVDPTTKILGNPEFGLYFKGPMIMKGYNNNEATKAILDNDGWLRSGLI 422
QY 426 GYDEEKHFIVDRLSKLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPPIAGELPGA 485
D 423 AYDNDGHFIVDRLSKLIKYGYQVAPAEIEGILLQHPYIVDAGVTGIPDEAAGELPAA 482
QY 486 VVLEKSKMTEKEVMDYVASOVSNKRLRGVRFVDEVPKGLTKIDGKAIREILKK 543
D 483 GVVTQTKYLNQIVQDYVASQVSTAKNLRGVRFVDEVPKGLTKIDRKLVRQMFKEK 540
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Matches 326; Conservative 82; Mismatches 129; Indels 1; Gaps 1;

QY 7 DENIVGPEPPFYPIEGSAGAGLRKYMDRYAKL-GAIAFTNALTGVDTYVAEYLEKSCCL 65
D 3 DKNILYGPPEPPFYLEDGTAGEQMFDAISRYADIPGCIATLNAHTKENVLYEFLKLSCL 62
QY 66 GEALKNYGLVVDGRIALCSENCEEFFIPVLGLFVGVGAPVNEIYTLRELVHSLGSKP 125
D 63 AESFKYGLKQNDTIAVCSENGLQFFLVIAISYLGIIIVAPVNDKYIERLIHSLGIVKP 122
QY 126 TIVFSKKGDLKVIITVQKTVTAIKTIVILDSKVDYRGYQSMDFIKKNTPOGFKGSSPK 185
D 123 RIVFCSKNTFOKVLNVKSKLSKSIETIIILDLNEDLGGYQCLNFIQSONSDNLDVKFKP 182
QY 186 VEVNRKEQVALIMNSGSGTGLPKGVOLTHENAVTRFSEHARDPIYGNQVSPGTAILTVVPF 245
D 183 YSFNRDDQVALIMFSGSGTGLPKGVOLTHENAVTRFSEHARDPIYGNQVSPGTAILTVVPF 242
QY 246 HHGFGMTTILGYLTCGFRIVMLTKFDEETFLKTLQDYKCSSVILVPTLFAILNRSLLDK 305
D 243 HHGFGMTTILGYLTCGFRIVMLTKFDEETFLKTLQDYKCSSVILVPTLMAFLAKSALVEK 302
QY 306 YDLSNLVEIASGAPLSKEIGAVARRNLPVROGYGLTETTSAILITPEGDDKPGASG 365
D 303 YDLSHLKEIASGAPLSKEIGEMVKRFLNFRVROGYGLTETTSAVLITPKGDAKPGSGT 362
QY 366 KVPFLFKAVIDLTKTLGNRRGEVCVKGPMLMKGVVDNPEATREIIDEGWLHTGDI 425
D 363 KIVPHAVKVDPTTKILGNPEFGLYFKGPMIMKGYNNNEATKAILDNDGWLRSGLI 422
QY 426 GYDEEKHFIVDRLSKLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPPIAGELPGA 485
D 423 AYDNDGHFIVDRLSKLIKYGYQVAPAEIEGILLQHPYIVDAGVTGIPDEAAGELPAA 482
QY 486 VVLEKSKMTEKEVMDYVASOVSNKRLRGVRFVDEVPKGLTKIDGKAIREILKK 543
D 483 GVVTQTKYLNQIVQDYVASQVSTAKNLRGVRFVDEVPKGLTKIDRKLVRQMFKEK 540

RESULT 21
US-09-813-279B-4
; Sequence 4, Application US/09813279B
; Publication No. US20030104507A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith
; APPLICANT: Hannah, Rita
; APPLICANT: Moravec, Richard A
; TITLE OF INVENTION: IMPROVED METHOD FOR DETECTION OF ATP
; FILE REFERENCE: 10743/6
; CURRENT APPLICATION NUMBER: US/09/813,279B
; PRIOR FILING DATE: 2002-11-13
; PRIOR APPLICATION NUMBER: US60/269,526
; NUMBER OF SEQ ID NOS: 8
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 4
; LENGTH: 544
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Mutant of LucPpe2 luciferase
US-09-813-279B-4

Query Match
  60.4%; Score 1706.5; DB 10; Length 544;
Best Local Similarity 60.8%; Pred. No. 2.4e-156;
Matches 326; Conservative 83; Mismatches 128; Indels 1; Gaps 1;

QY 7 DENIVGPEPPFYPIEGSAGAGLRKYMDRYAKL-GAIAFTNALTGVDTYVAEYLEKSCCL 65
D 3 DKNILYGPPEPPFYLEDGTAGEQMFDAISRYAALPGCIATLNAHTKENVLYEFLKLSCL 62
QY 66 GEALKNYGLVVDGRIALCSENCEEFFIPVLGLFVGVGAPVNEIYTLRELVHSLGSKP 125
```

Db 63 ABSPKKYGLKQNDTIAVCSNSLQFLPVIASLYLGIIVAPVNDKYIERELHSGIVKP 122
Qy 126 TIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQSMDFIKKNTPOGFKGSSPKT 185
Db 123 RIVFCSKNTFOKVLNVKSKLSKLSIETIIILLDNLGQYQCLNFIQNSDSNLDVKKFKP 182
Qy 186 VEVNRKEQVALIMNSGSGTGLPKGVOLTHENAVTRFSHARDPIYGNVSPGTAIITVVVPF 245
Db 183 YSFNRDDQVALIMNSGSGTGLPKGVOLTHENAVTRFSHARDPIYGNVSPGTAIITVVVPF 242
Qy 246 HHGFGMTTGLYLTGCGFRIVMLTKFDEETFLKLODYKSSVILVPTFALNRSLLDK 305
Db 243 HHGFGMTTGLYLTGCGFRIVMLTKFDEETFLKLODYKSSVILVPTFALNRSLLDK 302
Qy 306 YDLSNLVEIASGAPLSKEIGEAARFNLPGVROGYGLTETTSAILITPEGDDKPGASG 365
Db 303 YDLSHLKEIASGAPLSKEIGEMVKRFLNFRVQGYGLTETTSAILITPEGDDKPGASG 362
Qy 366 KVVPLFAKVIDIDTKTLGPNRRGEVCVGMKMGYVNDPEATREIIDEGWHLTGDI 425
Db 363 KIVPLHAKVVDPTTGKILGNPEGELYFKGPMKMGYVNDPEATREIIDEGWHLTGDI 422
Qy 426 GYDEEKHFIVDRLSKLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDPIAGELPGA 485
Db 423 AYDNDGHEFYIVDRLSKLIKYGYQVAPAEIEGILLQHPHYIVDAGVTGIPDEAAGELPAA 482
Qy 486 VVLEKGSMTKEVMDYVASQVSNARLGRGVRFVDEVPKGLTGKIDGKAIREILKK 543
Db 483 GVVVQTKYLNQIYVDYVASQVSTAKWLRGGVKFLDEIPKGSTGKIDRKVLRQMLEX 540

RESULT 22

US-10-378-168-24
; Sequence 24, Application US/10378168
; Publication No. US20030232404A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; TITLE OF INVENTION: Thermostable luciferases and methods of
; FILE REFERENCE: 341.012US1
; CURRENT FILING DATE: 2003-02-28
; PRIOR FILING DATE: 1999-09-15
; PRIOR APPLICATION NUMBER: US/10/378,168
; PRIOR FILING DATE: 1999-09-15
; PRIOR APPLICATION NUMBER: US/09/396,154
; PRIOR FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: PCT/US98/19494
; PRIOR FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: US 60/059,379
; PRIOR FILING DATE: 1997-09-19
; NUMBER OF SEQ ID NOS: 93
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 24
; LENGTH: 544
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Mutant luciferase
US-10-378-168-24

Query Match 60.4%; Score 1706.5; DB 15; Length 544;
Best Local Similarity 60.6%; Pred. No. 2.4e-156;
Matches 326; Conservative 82; Mismatches 129; Indels 1; Gaps 1;

Qy 7 DENIVGPEFPPIEBSGAGQRLKYMRYAKL-GAIAFTNALTGVDTYAYLEKSCCL 65
Db 3 DKNILYGPFPFLEDTAGEQMFDSALRYADIPGCIALTNAHTKENVLYEFLKLSCL 62
Qy 66 GEALKNYGLVVDGRIALCSCNECEEPFIPVLGFIYGVGAPNVEIYTLRELVHSLGSKP 125
Db 63 ABSPKKYGLKQNDTIAVCSNSLQFLPVIASLYLGIIVAPVNDKYIERELHSGIVKP 122

Qy 126 TIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQSMDFIKKNTPOGFKGSSPKT 185
Db 123 RIVFCSKNTFOKVLNVKSKLSKLSIETIIILLDNLGQYQCLNFIQNSDSNLDVKKFKP 182
Qy 186 VEVNRKEQVALIMNSGSGTGLPKGVOLTHENAVTRFSHARDPIYGNVSPGTAIITVVVPF 245
Db 183 YSFNRDDQVALIMNSGSGTGLPKGVOLTHENAVTRFSHARDPIYGNVSPGTAIITVVVPF 242
Qy 246 HHGFGMTTGLYLTGCGFRIVMLTKFDEETFLKLODYKSSVILVPTFALNRSLLDK 305
Db 243 HHGFGMTTGLYLTGCGFRIVMLTKFDEETFLKLODYKSSVILVPTFALNRSLLDK 302
Qy 306 YDLSNLVEIASGAPLSKEIGEAARFNLPGVROGYGLTETTSAILITPEGDDKPGASG 365
Db 303 YDLSHLKEIASGAPLSKEIGEMVKRFLNFRVQGYGLTETTSAILITPEGDDKPGASG 362
Qy 366 KVVPLFAKVIDIDTKTLGPNRRGEVCVGMKMGYVNDPEATREIIDEGWHLTGDI 425
Db 363 KIVPLHAKVVDPTTGKILGNPEGELYFKGPMKMGYVNDPEATREIIDEGWHLTGDI 422
Qy 426 GYDEEKHFIVDRLSKLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDPIAGELPGA 485
Db 423 AYDNDGHEFYIVDRLSKLIKYGYQVAPAEIEGILLQHPHYIVDAGVTGIPDEAAGELPAA 482
Qy 486 VVLEKGSMTKEVMDYVASQVSNARLGRGVRFVDEVPKGLTGKIDGKAIREILKK 543
Db 483 GVVVQTKYLNQIYVDYVASQVSTAKWLRGGVKFLDEIPKGSTGKIDRKVLRQMLEX 540

RESULT 23

US-10-378-168-45
; Sequence 45, Application US/10378168
; Publication No. US20030232404A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; TITLE OF INVENTION: Thermostable luciferases and methods of
; FILE REFERENCE: 341.012US1
; CURRENT FILING DATE: 2003-02-28
; PRIOR FILING DATE: 1999-09-15
; PRIOR APPLICATION NUMBER: US/10/378,168
; PRIOR FILING DATE: 1999-09-15
; PRIOR APPLICATION NUMBER: US/09/396,154
; PRIOR FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: PCT/US98/19494
; PRIOR FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: US 60/059,379
; PRIOR FILING DATE: 1997-09-19
; NUMBER OF SEQ ID NOS: 93
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 45
; LENGTH: 544
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Mutant luciferase
US-10-378-168-45

Query Match 60.4%; Score 1706.5; DB 15; Length 544;
Best Local Similarity 60.6%; Pred. No. 2.4e-156;
Matches 326; Conservative 83; Mismatches 128; Indels 1; Gaps 1;

Qy 7 DENIVGPEFPPIEBSGAGQRLKYMRYAKL-GAIAFTNALTGVDTYAYLEKSCCL 65
Db 3 DKNILYGPFPFLEDTAGEQMFDSALRYADIPGCIALTNAHTKENVLYEFLKLSCL 62
Qy 66 GEALKNYGLVVDGRIALCSCNECEEPFIPVLGFIYGVGAPNVEIYTLRELVHSLGSKP 125
Db 63 ABSPKKYGLKQNDTIAVCSNSLQFLPVIASLYLGIIVAPVNDKYIERELHSGIVKP 122
Qy 126 TIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQSMDFIKKNTPOGFKGSSPKT 185

Db 123 RIVFCSKNTFQKVLNVKSLKSIETIIILDLNEDLGGYQCLNNTFSONSDNLDVKKFKP 182
 Qy 186 VEVNRKEQVALIMNSSGGSTGLPKGVQLTHENAATVTRFSHARDPIYGNQVSPGTAILTVVPF 245
 Db 183 YSFNRDDQVASIMFSSGTTGLPKGVMLTHKNIVARFSAKDPFGNAINPTSAITVVPF 242
 Qy 246 HHGFGMTTGLYTCGFRVIMLTKEDEETFLKTDQYKCSSVILVPTLFAILNRSELLDK 305
 Db 243 HHGFGMTTGLYTCGFRVIMLTKEDEETFLKTDQYKCSSVILVPTLFAILNRSELLDK 302
 Qy 306 YDLSNLVEIASGAPLSKEIGAVARRFNLPGVQYGLTETTSATIIITPEGDDKPGASG 365
 Db 303 YDLSHLKETEASGAPLSKEIGEMVKRFXKLVNFRQYGLTETTSATIIITPEGDDKPGSTG 362
 Qy 366 KVPFLFAKVIDLTKTGLGNRRGEVCKGPMKMGYVNDPEATREIIDEGLWHTGDI 425
 Db 363 KIVPLHAVKVDPTTKILGNRRGEVCKGPMKMGYVNDPEATREIIDEGLWHTGDI 422
 Qy 426 GYDDEKHFYIVDRLSKSLIKYQVPPAELESVLLQHPNIFDAGVAGVDDPIAGELPGA 485
 Db 423 AYDNDGHFYIVDRLSKSLIKYQVAPAEIEGILLQHPYIVDAGVTGIPDEAAGELPAA 482
 Qy 486 VVLEKSKSMTEKVMYDVASQVSNKRLRGVRFVDEVPKGLTGKIDGKAIKREILKK 543
 Db 483 GVVVOTGKYLNEQIVQDYVASQVSTAKWLRGGVVKFELDEIPKGSTGKIDRKLQMLK 540

RESULT 24

US-10-655-878-2
 ; Sequence 2, Application US/10655878
 ; Publication No. US20040101922A1
 ; GENERAL INFORMATION:
 ; APPLICANT: Somberg, Richard
 ; APPLICANT: Goueli, Said A.
 ; TITLE OF INVENTION: Method for Detecting Transferase Enzymatic Activity
 ; FILE REFERENCE: 03-772
 ; CURRENT APPLICATION NUMBER: US/10/655,878
 ; PRIOR FILING DATE: 2003-09-05
 ; PRIOR APPLICATION NUMBER: US 60/408,662
 ; PRIOR FILING DATE: 2002-09-06
 ; NUMBER OF SEQ ID NOS: 8
 ; SOFTWARE: Patentin version 3.2
 ; SEQ ID NO 2
 ; LENGTH: 544
 ; TYPE: PRT
 ; ORGANISM: Photuris pennsylvanica
 US-10-655-878-2

Query Match 60.4%; Score 1706.5; DB 16; Length 544;
 Best Local Similarity 60.6%; Pred. No. 2.4e-156;
 Matches 326; Conservative 82; Mismatches 129; Indels 1; Gaps 1;

Qy 7 DENIVYGPPEPIEBSAGALRKYMRYAKL-GAIAFTNALTGVDYTYAEYLEKSCCL 65
 Db 3 DKNILYGPPEPIEBSAGALRKYMRYAKL-GAIAFTNALTGVDYTYAEYLEKSCCL 62
 Qy 66 GEALKNYGLVVDGRIALCSENCEEFFIPVLGAGIFGVGAPTNBIYTLRELHSLGISKP 125
 Db 63 AESFKYGLKQNDTIAVCSNGLQFPLVIAISLYLGIIVAPVNDKYIERELHSLGIVKP 122
 Qy 126 TIVFSSKGLDKVITVQKVTAKTIVILDSKVDYQYQSMDFIKQNTPOGFGSSFKT 185
 Db 63 AESFKYGLKQNDTIAVCSNGLQFPLVIAISLYLGIIVAPVNDKYIERELHSLGIVKP 122
 Qy 126 TIVFSSKGLDKVITVQKVTAKTIVILDSKVDYQYQSMDFIKQNTPOGFGSSFKT 185
 Db 123 RIVFCSKNTFQKVLNVKSLKSIETIIILDLNEDLGGYQCLNNTFSONSDNLDVKKFKP 182
 Qy 186 VEVNRKEQVALIMNSSGGSTGLPKGVQLTHENAATVTRFSHARDPIYGNQVSPGTAILTVVPF 245
 Db 183 YSFNRDDQVASIMFSSGTTGLPKGVMLTHKNIVARFSAKDPFGNAINPTSAITVVPF 242
 Qy 246 HHGFGMTTGLYTCGFRVIMLTKEDEETFLKTDQYKCSSVILVPTLFAILNRSELLDK 305
 Db 243 HHGFGMTTGLYTCGFRVIMLTKEDEETFLKTDQYKCSSVILVPTLFAILNRSELLDK 302
 Qy 306 YDLSNLVEIASGAPLSKEIGAVARRFNLPGVQYGLTETTSATIIITPEGDDKPGASG 365
 Db 303 YDLSHLKETEASGAPLSKEIGEMVKRFXKLVNFRQYGLTETTSATIIITPEGDDKPGSTG 362
 Qy 366 KVPFLFAKVIDLTKTGLGNRRGEVCKGPMKMGYVNDPEATREIIDEGLWHTGDI 425
 Db 363 KIVPLHAVKVDPTTKILGNRRGEVCKGPMKMGYVNDPEATREIIDEGLWHTGDI 422
 Qy 426 GYDDEKHFYIVDRLSKSLIKYQVPPAELESVLLQHPNIFDAGVAGVDDPIAGELPGA 485
 Db 423 AYDNDGHFYIVDRLSKSLIKYQVAPAEIEGILLQHPYIVDAGVTGIPDEAAGELPAA 482
 Qy 486 VVLEKSKSMTEKVMYDVASQVSNKRLRGVRFVDEVPKGLTGKIDGKAIKREILKK 543
 Db 483 GVVVOTGKYLNEQIVQDYVASQVSTAKWLRGGVVKFELDEIPKGSTGKIDRKLQMLK 540

Db 303 YDLSHLKETEASGAPLSKEIGEMVKRFXKLVNFRQYGLTETTSATIIITPEGDDKPGSTG 362
 Qy 366 KVPFLFAKVIDLTKTGLGNRRGEVCKGPMKMGYVNDPEATREIIDEGLWHTGDI 425
 Db 363 KIVPLHAVKVDPTTKILGNRRGEVCKGPMKMGYVNDPEATREIIDEGLWHTGDI 422
 Qy 426 GYDDEKHFYIVDRLSKSLIKYQVPPAELESVLLQHPNIFDAGVAGVDDPIAGELPGA 485
 Db 423 AYDNDGHFYIVDRLSKSLIKYQVAPAEIEGILLQHPYIVDAGVTGIPDEAAGELPAA 482
 Qy 486 VVLEKSKSMTEKVMYDVASQVSNKRLRGVRFVDEVPKGLTGKIDGKAIKREILKK 543
 Db 483 GVVVOTGKYLNEQIVQDYVASQVSTAKWLRGGVVKFELDEIPKGSTGKIDRKLQMLK 540

RESULT 25

US-10-655-878-4
 ; Sequence 4, Application US/10655878
 ; Publication No. US20040101922A1
 ; GENERAL INFORMATION:
 ; APPLICANT: Somberg, Richard
 ; APPLICANT: Goueli, Said A.
 ; TITLE OF INVENTION: Method for Detecting Transferase Enzymatic Activity
 ; FILE REFERENCE: 03-772
 ; CURRENT APPLICATION NUMBER: US/10/655,878
 ; PRIOR FILING DATE: 2003-09-05
 ; PRIOR APPLICATION NUMBER: US 60/408,662
 ; PRIOR FILING DATE: 2002-09-06
 ; NUMBER OF SEQ ID NOS: 8
 ; SOFTWARE: Patentin version 3.2
 ; SEQ ID NO 4
 ; LENGTH: 544
 ; TYPE: PRT
 ; ORGANISM: Photuris pennsylvanica
 US-10-655-878-4

Query Match 60.4%; Score 1706.5; DB 16; Length 544;
 Best Local Similarity 60.6%; Pred. No. 2.4e-156;
 Matches 326; Conservative 83; Mismatches 128; Indels 1; Gaps 1;

Qy 7 DENIVYGPPEPIEBSAGALRKYMRYAKL-GAIAFTNALTGVDYTYAEYLEKSCCL 65
 Db 3 DKNILYGPPEPIEBSAGALRKYMRYAKL-GAIAFTNALTGVDYTYAEYLEKSCCL 62
 Qy 66 GEALKNYGLVVDGRIALCSENCEEFFIPVLGAGIFGVGAPTNBIYTLRELHSLGISKP 125
 Db 63 AESFKYGLKQNDTIAVCSNGLQFPLVIAISLYLGIIVAPVNDKYIERELHSLGIVKP 122
 Qy 126 TIVFSSKGLDKVITVQKVTAKTIVILDSKVDYQYQSMDFIKQNTPOGFGSSFKT 185
 Db 123 RIVFCSKNTFQKVLNVKSLKSIETIIILDLNEDLGGYQCLNNTFSONSDNLDVKKFKP 182
 Qy 186 VEVNRKEQVALIMNSSGGSTGLPKGVQLTHENAATVTRFSHARDPIYGNQVSPGTAILTVVPF 245
 Db 183 YSFNRDDQVASIMFSSGTTGLPKGVMLTHKNIVARFSAKDPFGNAINPTSAITVVPF 242
 Qy 246 HHGFGMTTGLYTCGFRVIMLTKEDEETFLKTDQYKCSSVILVPTLFAILNRSELLDK 305
 Db 243 HHGFGMTTGLYTCGFRVIMLTKEDEETFLKTDQYKCSSVILVPTLFAILNRSELLDK 302
 Qy 306 YDLSNLVEIASGAPLSKEIGAVARRFNLPGVQYGLTETTSATIIITPEGDDKPGASG 365
 Db 303 YDLSHLKETEASGAPLSKEIGEMVKRFXKLVNFRQYGLTETTSATIIITPEGDDKPGSTG 362
 Qy 366 KVPFLFAKVIDLTKTGLGNRRGEVCKGPMKMGYVNDPEATREIIDEGLWHTGDI 425
 Db 363 KIVPLHAVKVDPTTKILGNRRGEVCKGPMKMGYVNDPEATREIIDEGLWHTGDI 422
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 Db 423 AYDNDGHFYIVDRLSKSLIKYQVAPAEIEGILLQHPYIVDAGVTGIPDEAAGELPAA 482

us-09-581-241a-8.rapb

Page 14

QY	486	VVLEKGSMTKEVMYDVASQVSNAKRLGGVFVEVPKGITGKTIDGAIREILKK	543
		: :	
Db	483	GVVVQTGYLNEQIVQDIVASQVSTAKWLRGGVKFLDEIPKSGTCKIDRKVLQM LEX	540

Search completed: July 22, 2004, 08:33:30
Job time : 43 secs

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OM protein - protein search, using sw model

Run on: July 22, 2004, 08:02:44 ; Search time 15.6667 Seconds
(without alignment)

1805.811 Million cell updates/sec

Title: US-09-581-241A-8

Perfect score: 2823

Sequence: 1 MENMENDENIVGPEFFVPI.....TGKIDGKAIRILKPKVAKM 548

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 389414 seqs, 51625971 residues

Total number of hits satisfying chosen parameters: 389414

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 100 summaries

Database :

Issued Patents AA: *
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2: /cgn2_6/ptodata/2/1aa/5B_COMB.pep:*
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6: /cgn2_6/ptodata/2/1aa/backfiles.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	2823	100.0	548	1	US-07-903-047-8
2	2823	100.0	548	2	US-09-380-061B-16
3	2818	99.8	548	2	US-08-460-934-2
4	2818	99.8	548	2	US-08-782-118-2
5	2815	99.7	548	4	US-08-487-183A-14
6	2814	99.7	548	4	US-09-396-154-28
7	2813	99.6	636	2	US-08-460-934-9
8	2813	99.6	636	2	US-08-782-118-9
9	2808	99.5	548	3	US-09-111-753-14
10	2802	99.3	548	4	US-09-602-628-10
11	2800	99.2	568	2	US-08-460-934-6
12	2800	99.2	568	2	US-08-782-118-6
13	2702	95.7	552	3	US-09-111-753-10
14	2699	95.3	548	1	US-07-675-211-2
15	2689	95.3	548	1	US-07-903-047-2
16	2689	95.3	548	1	US-08-076-042-2
17	2689	95.3	548	3	US-09-380-061B-14
18	2689	95.3	548	4	US-09-396-154-27
19	2680	94.9	548	4	US-08-487-183A-12
20	2589	91.7	552	3	US-09-111-753-7
21	2399	85.0	552	3	US-09-111-753-5
22	2344.5	83.0	548	3	US-09-380-061B-18
23	2344.5	83.0	548	4	US-08-487-183A-16
24	2344.5	83.0	548	4	US-09-396-154-29
25	1968.5	69.7	547	3	US-09-380-061B-20
26	1968.5	69.7	547	4	US-09-396-154-32
27	1965.5	69.6	550	1	US-08-354-240A-4

28	1965.5	69.6	550	4	US-09-602-628-8	Sequence 8, Appli
29	1965.5	69.6	550	4	US-09-577-424-2	Sequence 2, Appli
30	1959.5	69.4	550	4	US-09-602-628-4	Sequence 4, Appli
31	1956.5	69.3	550	1	US-08-354-240A-6	Sequence 6, Appli
32	1954.5	69.2	549	3	US-08-354-240A-2	Sequence 2, Appli
33	1954.5	69.2	550	3	US-08-867-352-23	Sequence 23, Appli
34	1954.5	69.2	550	3	US-09-380-061B-21	Sequence 21, Appli
35	1954.5	69.2	550	4	US-09-602-628-2	Sequence 2, Appli
36	1954.5	69.2	550	4	US-09-602-628-12	Sequence 12, Appli
37	1954.5	69.2	550	4	US-09-396-154-31	Sequence 31, Appli
38	1954.5	69.2	815	1	US-08-122-520C-9	Sequence 9, Appli
39	1954.5	69.2	1242	4	US-09-488-270A-2	Sequence 2, Appli
40	1948.5	69.0	550	3	US-08-718-425-2	Sequence 2, Appli
41	1948.5	69.0	550	3	US-08-875-277A-2	Sequence 2, Appli
42	1946.5	69.0	550	3	US-09-380-061B-6	Sequence 6, Appli
43	1943.5	68.8	550	3	US-08-718-425-5	Sequence 5, Appli
44	1943.5	68.8	550	4	US-09-602-628-6	Sequence 6, Appli
45	1941.5	68.8	550	3	US-08-875-277A-4	Sequence 4, Appli
46	1939.5	68.7	550	4	US-08-487-183A-10	Sequence 10, Appli
47	1914.5	67.8	561	2	US-08-474-169-8	Sequence 8, Appli
48	1893	67.1	548	4	US-09-396-154-30	Sequence 30, Appli
49	1828	64.8	552	1	US-08-331-729B-6	Sequence 6, Appli
50	1828	64.8	552	4	US-09-396-154-33	Sequence 33, Appli
51	1706.5	60.4	544	4	US-09-396-154-24	Sequence 24, Appli
52	1706.5	60.4	544	4	US-09-396-154-45	Sequence 45, Appli
53	1702.5	60.3	544	4	US-09-396-154-44	Sequence 44, Appli
54	1671.5	59.2	544	4	US-09-396-154-23	Sequence 23, Appli
55	1667.5	59.1	544	4	US-09-396-154-19	Sequence 19, Appli
56	1646.5	58.3	544	4	US-09-396-154-22	Sequence 22, Appli
57	1643.5	58.2	544	4	US-09-396-154-18	Sequence 18, Appli
58	1641.5	58.1	544	4	US-09-396-154-20	Sequence 20, Appli
59	1638.5	58.0	544	4	US-09-396-154-15	Sequence 15, Appli
60	1638.5	58.0	544	4	US-09-396-154-21	Sequence 21, Appli
61	1635.5	57.9	544	4	US-09-396-154-17	Sequence 17, Appli
62	1634.5	57.9	544	4	US-09-396-154-14	Sequence 14, Appli
63	1634.5	57.9	545	4	US-09-396-154-25	Sequence 25, Appli
64	1629.5	57.7	544	4	US-09-396-154-16	Sequence 16, Appli
65	1626.5	57.6	545	4	US-09-396-154-37	Sequence 37, Appli
66	1384	49.0	546	4	US-09-396-154-34	Sequence 34, Appli
67	1363	48.3	542	4	US-09-396-154-47	Sequence 47, Appli
68	1363	48.3	543	4	US-08-487-183A-4	Sequence 4, Appli
69	1363	48.3	543	4	US-08-487-183A-6	Sequence 6, Appli
70	1363	48.3	543	4	US-09-396-154-36	Sequence 36, Appli
71	1359	48.1	543	4	US-08-487-183A-8	Sequence 8, Appli
72	1354	48.0	543	4	US-08-487-183A-2	Sequence 2, Appli
73	1354	48.0	543	4	US-09-396-154-35	Sequence 35, Appli
74	1352	47.9	542	4	US-09-396-154-26	Sequence 26, Appli
75	739.5	25.8	535	4	US-08-969-046-2	Sequence 2, Appli
76	735.5	25.7	540	3	US-08-991-677-8	Sequence 8, Appli
77	723.5	25.6	544	4	US-09-615-192A-349	Sequence 349, App
78	710	25.2	570	4	US-08-969-046-4	Sequence 4, Appli
79	682	24.2	551	4	US-09-615-192A-348	Sequence 348, App
80	584	20.7	578	3	US-08-981-215-1	Sequence 1, Appli
81	542	19.2	566	4	US-09-252-991A-17972	Sequence 17972, A
82	539	19.1	584	4	US-09-489-039A-14137	Sequence 14137, A
83	530	18.8	568	4	US-03-328-352-5460	Sequence 5460, Ap
84	500	17.7	562	4	US-09-252-991A-17371	Sequence 17371, A
85	490.5	17.4	589	4	US-09-328-352-6901	Sequence 6901, Ap
86	476	16.9	180	4	US-09-615-192A-281	Sequence 281, App
87	466	16.5	582	4	US-09-543-681A-4556	Sequence 4556, Ap
88	429	15.2	543	4	US-09-134-001C-4423	Sequence 4423, Ap
89	427	15.1	601	4	US-09-252-991A-31225	Sequence 31225, A
90	413	14.6	548	4	US-09-543-681A-6631	Sequence 6631, Ap
91	403	14.3	661	4	US-09-252-991A-20392	Sequence 20392, A
92	387	13.7	542	4	US-09-489-039A-9564	Sequence 9564, Ap
93	374	13.2	523	4	US-09-134-000C-6177	Sequence 6177, Ap
94	347.5	12.3	583	4	US-09-252-991A-20324	Sequence 20324, A
95	336	11.9	649	4	US-09-418-963-2	Sequence 2, Appli
96	334	11.8	548	4	US-09-328-352-7909	Sequence 7909, Ap
97	325	11.5	119	4	US-09-615-192A-282	Sequence 282, App
98	321.5	11.4	488	4	US-08-311-731A-283	Sequence 283, App
99	316.5	11.2	555	4	US-09-252-991A-20604	Sequence 20604, A
100	311	11.0	497	4	US-09-134-001C-5114	Sequence 5114, Ap

ALIGNMENTS

RESULT 1

RESULT 1
 US-07-903-047-8
 ; Sequence 8, Application US/07903047
 ; Patent No. 5229285
 ; GENERAL INFORMATION:
 ; APPLICANT: Kajiyama, Naoki
 ; APPLICANT: Nakano, Eiichi
 ; TITLE OF INVENTION: Thermostable Luciferase Of Firefly,
 ; TITLE OF INVENTION: Thermostable Luciferase Gene Of Firefly, No. 5229285el Recombinant
 ; TITLE OF INVENTION: DNA, And Process For The Preparation Of Thermostable
 ; TITLE OF INVENTION: Luciferase Of Firefly
 ; NUMBER OF SEQUENCES: 11
 ; CORRESPONDENCE ADDRESS:
 ; ADDRESSEE: Pennie & Edmonds
 ; STREET: 1155 Avenue of the Americas
 ; CITY: New York
 ; STATE: New York
 ; COUNTRY: U.S.A.
 ; ZIP: 10036-2711
 ; COMPUTER READABLE FORM:
 ; MEDIUM TYPE: Floppy disk
 ; COMPUTER: IBM PC compatible
 ; OPERATING SYSTEM: PC-DOS/MS-DOS
 ; SOFTWARE: Patent in Release #1.0, Version #1.25
 ; CURRENT APPLICATION DATA:
 ; APPLICATION NUMBER: US/07/903,047
 ; FILING DATE: 19920623

Query Match	100.0%;	Score 2823;	DB 1;	Length 548;
Best Local Similarity	100.0%;	Pred. No. 3.9e-283;		
Matches 548;	Conservative 0;	Mismatches 0;	Indels 0;	Gaps 0;
QY	1	MENNENDENIVYGPPEPYPIEESGAGQRLKYMDRVAKLGAIAFTNALTGVDVTVAEYLE	60	
DbB	1	MENNENDENIVYGPPEPYPIEESGAGQRLKYMDRVAKLGAIAFTNALTGVDVTVAEYLE	60	
QY	61	KSCCLGEALKNYGLVWDGRIALSCENCBEFFIPVLAGLPIGVGVAPTNEIYTLRELVHSL	120	
DbB	61	KSCCLGEALKNYGLVWDGRIALSCENCBEFFIPVLAGLPIGVGVAPTNEIYTLRELVHSL	120	
QY	121	GISKPTTVFSSKXGLDKVITVQKTVTAIKTIVILDSKVDRYGYQSMDFIKKNTPQGFPGK	180	
DbB	121	GISKPTTVFSSKXGLDKVITVQKTVTAIKTIVILDSKVDRYGYQSMDFIKKNTPQGFPGK	180	
QY	181	SSPKTVENRKEQVALIMNSGSGTGIPKGVLTHENAVTRFSHARDPIYGNQVSPGTAIL	240	
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QY	241	TVVPFHFGQMFMTGLGYLTCGFFIVMLTKFDEBTF.KTLQDYKCSSVILVPTFLFAILNRS	300	
DbB	241	TVVPFHFGQMFMTGLGYLTCGFFIVMLTKFDEBTF.KTLQDYKCSSVILVPTFLFAILNRS	300	

RESULT 2

US-09-380-061B-16
Sequence 16, Application US/09380061B
Patent No. 6265177
GENERAL INFORMATION:
APPLICANT: SQUIRELL, DAVID JAMES
WHITE, PETER JOHN
LOWE, CHRISTOPHER ROBIN
MURRAY, JAMES AUGUSTUS HENRY
TITLE OF INVENTION: ENZYME ASSAY FOR MUTANT FIREFLY LUCIFERASE
NUMBER OF SEQUENCES: 21
CORRESPONDENCE ADDRESS:
ADDRESSEE: NIXON & VANDERHYE P. C.
STREET: 1100 NORTH GLEBE ROAD
CITY: ARLINGTON
STATE: VIRGINIA
COUNTRY: U.S.A.
ZIP: 22201-4714
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25 (BPO)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/380,061B
FILING DATE: 25-Aug-1999
CLASSIFICATION: <Unknown>
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/GB98/01026
FILING DATE: 7-APR-1998
APPLICATION NUMBER: GB 9707468.8
FILING DATE: 11-APR-1997
ATTORNEY/AGENT INFORMATION:
NAME: SADOFF, B. J.
REGISTRATION NUMBER: 36,663
REFERENCE/DOCKET NUMBER: 124-725
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703)816-4000
TELEFAX: (703)816-4100
INFORMATION FOR SEQ ID NO: 16:
SEQUENCE CHARACTERISTICS:
LENGTH: 548 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
SEQUENCE DESCRIPTION: SEQ ID NO: 16:
US-09-380-061B-16

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Query Match      100.0%; Score 2823; DB 3; Length 548;
Best Local Similarity 100.0%; Pred. No. 3.9e-289;
Matches 548; Conservative 0; Mismatches 0; Indels 0;
Caps 0;
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Db 1 MENMENDENIVGPEFFPIEBSAGQLRKYMDRYAKLGAFTNALTGVDTYVAEYLE 60
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Db 61 KSCCLGEALKNYGLVVDGRIALCSNCEFFPIVLAGLFIGVGVAPTNEIYTLRELVHSL 120
QY 121 GISKPTIVFSSKKGLDKVITVQKTVAIKTIVILDSKVDYRGYQGMDFIKKNTPQGFKG 180
Db 121 GISKPTIVFSSKKGLDKVITVQKTVAIKTIVILDSKVDYRGYQGMDFIKKNTPQGFKG 180
QY 181 SSFKTVEVNRKEQVALIMNSSSGTGLPKGVQLTHENAVTRFSHARDPIYGNQVSPGTAIL 240
Db 181 SSFKTVEVNRKEQVALIMNSSSGTGLPKGVQLTHENAVTRFSHARDPIYGNQVSPGTAIL 240
QY 241 TVPFFHGFQMTTGLYLTGCGFRIVMLTKFDEETFLKTLQDYKCSSVILVPTLFAILNRS 300
Db 241 TVPFFHGFQMTTGLYLTGCGFRIVMLTKFDEETFLKTLQDYKCSSVILVPTLFAILNRS 300
QY 301 ELLDKYDLSNLVEIASGAPLSKEIGEAARRFNLPGVRQGYGLTETTSIIITPEGDDK 360
Db 301 ELLDKYDLSNLVEIASGAPLSKEIGEAARRFNLPGVRQGYGLTETTSIIITPEGDDK 360
QY 361 PCASGKVWPLFKAKVIDLDTKTLGNRRGECVVGPMKMGYVDNPEATREIIDEEGWL 420
Db 361 PCASGKVWPLFKAKVIDLDTKTLGNRRGECVVGPMKMGYVDNPEATREIIDEEGWL 420
QY 421 HTGDI GYVDEEKHFFIVDLRLKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPPIAG 480
Db 421 HTGDI GYVDEEKHFFIVDLRLKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPPIAG 480
QY 481 ELPGAVVLEKSKMTEKEVMDYVASQVSNAKRLRGVRVDEVPKGLTGKIDGKAIREI 540
Db 481 ELPGAVVLEKSKMTEKEVMDYVASQVSNAKRLRGVRVDEVPKGLTGKIDGKAIREI 540
QY 541 LKKPVAKM 548
Db 541 LKKPVAKM 548
RESULT 3
US-08-460-934-2
; Sequence 2, Application US/08460934
; Patent No. 5814465
; GENERAL INFORMATION:
; APPLICANT: FURUKAWA, HIROKI
; APPLICANT: FUKUDA, SATOSHI
; APPLICANT: KIKUCHI, MAMORU
; APPLICANT: KOBAYASHI, YASUJI
; TITLE OF INVENTION: BIOTINYLATED FIREFLY LUCIFERASE, A GENE
; TITLE OF INVENTION: FOR BIOTINYLATED FIREFLY LUCIFERASE, A RECOMBINANT DNA, A
; TITLE OF INVENTION: PROCESS FOR PRODUCING BIOTINATED AND A BIOLUMINESCENT
; TITLE OF INVENTION: ANALYSIS METHOD
; NUMBER OF SEQUENCES: 14
; CORRESPONDENCE ADDRESS:
; ADDRESSER: P.C.
; STREET: 1755 S. JEFFERSON DAVIS HIGHWAY, FOURTH FLOOR
; CITY: ARLINGTON
; STATE: VA USA
; COUNTRY: VA USA
; ZIP: 22202
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/460,934
; FILING DATE: 05-JUN-1995
; CLASSIFICATION: 435
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; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: JP 193798/1994
; FILING DATE: 27-JUL-1994
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: JP 54625/1995
; FILING DATE: 14-MAR-1995
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: JP 98857/1995
; FILING DATE: 24-APR-1995
; ATTORNEY/AGENT INFORMATION:
; NAME: OBLON, NORMAN F.
; REGISTRATION NUMBER: 24,618
; REFERENCE/DOCKET NUMBER: 7126-001-0
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 703-413-5000
; TELEFAX: 703-413-2220
; INFORMATION FOR SEQ ID NO: 2:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 548 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: unknown
; MOLECULE TYPE: peptide
; ORIGINAL SOURCE:
; ORGANISM: Luciola lateralis
; US-08-460-934-2
Query Match 99.8%; Score 2818; DB 2; Length 548;
Best Local Similarity 99.8%; Pred. No. 1.3e-288;
Matches 547; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
QY 1 MENMENDENIVGPEFFPIEBSAGQLRKYMDRYAKLGAFTNALTGVDTYVAEYLE 60
Db 1 MENMENDENIVGPEFFPIEBSAGQLRKYMDRYAKLGAFTNALTGVDTYVAEYLE 60
QY 61 KSCCLGEALKNYGLVVDGRIALCSNCEFFPIVLAGLFIGVGVAPTNEIYTLRELVHSL 120
Db 61 KSCCLGEALKNYGLVVDGRIALCSNCEFFPIVLAGLFIGVGVAPTNEIYTLRELVHSL 120
QY 121 GISKPTIVFSSKKGLDKVITVQKTVAIKTIVILDSKVDYRGYQGMDFIKKNTPQGFKG 180
Db 121 GISKPTIVFSSKKGLDKVITVQKTVAIKTIVILDSKVDYRGYQGMDFIKKNTPQGFKG 180
QY 181 SSFKTVEVNRKEQVALIMNSSSGTGLPKGVQLTHENAVTRFSHARDPIYGNQVSPGTAIL 240
Db 181 SSFKTVEVNRKEQVALIMNSSSGTGLPKGVQLTHENAVTRFSHARDPIYGNQVSPGTAIL 240
QY 241 TVPFFHGFQMTTGLYLTGCGFRIVMLTKFDEETFLKTLQDYKCSSVILVPTLFAILNRS 300
Db 241 TVPFFHGFQMTTGLYLTGCGFRIVMLTKFDEETFLKTLQDYKCSSVILVPTLFAILNRS 300
QY 301 ELLDKYDLSNLVEIASGAPLSKEIGEAARRFNLPGVRQGYGLTETTSIIITPEGDDK 360
Db 301 ELLDKYDLSNLVEIASGAPLSKEIGEAARRFNLPGVRQGYGLTETTSIIITPEGDDK 360
QY 361 PCASGKVWPLFKAKVIDLDTKTLGNRRGECVVGPMKMGYVDNPEATREIIDEEGWL 420
Db 361 PCASGKVWPLFKAKVIDLDTKTLGNRRGECVVGPMKMGYVDNPEATREIIDEEGWL 420
QY 421 HTGDI GYVDEEKHFFIVDLRLKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPPIAG 480
Db 421 HTGDI GYVDEEKHFFIVDLRLKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPPIAG 480
QY 481 ELPGAVVLEKSKMTEKEVMDYVASQVSNAKRLRGVRVDEVPKGLTGKIDGKAIREI 540
Db 481 ELPGAVVLEKSKMTEKEVMDYVASQVSNAKRLRGVRVDEVPKGLTGKIDGKAIREI 540
QY 541 LKKPVAKM 548
Db 541 LKKPVAKM 548
RESULT 4
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US-08-782-118-2
; Sequence 2, Application US/08782118
; Patent No. 5843746
; GENERAL INFORMATION:
; APPLICANT: TATSUMI, HIROKI
; APPLICANT: FUKUDA, SATOSHI
; APPLICANT: KIKUCHI, MAMORU
; APPLICANT: KOYAMA, YASUJI
; TITLE OF INVENTION: BIOTINYLATED FIREFLY LUCIFERASE, A GENE
; TITLE OF INVENTION: FOR BIOTINYLATED FIREFLY LUCIFERASE, A RECOMBINANT DNA, A
; TITLE OF INVENTION: PROCESS FOR PRODUCING BIOTINATED AND A BIOLUMINESCENT
; TITLE OF INVENTION: ANALYSIS METHOD
; NUMBER OF SEQUENCES: 14
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: P.C.
; ADDRESS: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT,
; STREET: 1755 S. JEFFERSON DAVIS HIGHWAY, FOURTH FLOOR
; CITY: ARLINGTON
; STATE: VA
; COUNTRY: USA
; ZIP: 22202
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent in Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/782,118
; FILING DATE: 13-JAN-1997
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/460,934
; FILING DATE: 05-JUN-1995
; APPLICATION NUMBER: JP 193798/1994
; FILING DATE: 27-JUL-1994
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: JP 54625/1995
; FILING DATE: 14-MAR-1995
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: JP 98857/1995
; FILING DATE: 24-APR-1995
; ATTORNEY/AGENT INFORMATION:
; NAME: OBLON, NORMAN F.
; REGISTRATION NUMBER: 24,618
; REFERENCE/DOCKET NUMBER: 7126-001-0
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 703-413-3000
; TELEFAX: 703-413-2220
; INFORMATION FOR SEQ ID NO: 2:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 548 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: unknown
; MOLECULE TYPE: peptide
; ORIGINAL SOURCE:
; ORGANISM: Luciola lateralis
US-08-782-118-2
Query Match 99.8%; Score 2818; DB 2; Length 548;
Best Local Similarity 99.8%; Pred. No. 1.3e-288;
Matches 547; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
QY 1 MENNENDENIVGPEFFPIEESGAGLQKRYMDRYAKLGAIAFTNALTGVDTYVAEYLE 60
DB 1 MENNENDENIVGPEFFPIEESGAGLQKRYMDRYAKLGAIAFTNALTGVDTYVAEYLE 60
QY 61 KSCCLGALKNYGLVVDGRIALCSECEFFIPVLGLGIVGVAPTNIEYTLRELVHSL 120
DB 61 KSCCLGALKNYGLVVDGRIALCSECEFFIPVLGLGIVGVAPTNIEYTLRELVHSL 120
QY 121 GISKPTIVSSKGLDKVITVQKTTVAIKTIVILDSKVDYRGYQSMDFIKKNTPOGPKG 180
DB 121 GISKPTIVSSKGLDKVITVQKTTVAIKTIVILDSKVDYRGYQSMDFIKKNTPOGPKG 180
; Sequence 14, Application US/08487183A
; Patent No. 6387675
; GENERAL INFORMATION:
; APPLICANT: WOOD, Keith V.
; APPLICANT: GRUBER, Monika G.
; TITLE OF INVENTION: MUTANT LUCIFERASES
; NUMBER OF SEQUENCES: 16
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Foley & Lardner
; STREET: P.O. Box 1497
; CITY: Madison
; STATE: WI
; COUNTRY: USA
; ZIP: 53701-1497
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent in Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/487,183A
; FILING DATE: 06-JUN-1995
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/467,773
; FILING DATE: 06-JUN-1995
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/177,081
; FILING DATE: 03-JAN-1994
; ATTORNEY/AGENT INFORMATION:
; NAME: Scanlon, William J.
; REGISTRATION NUMBER: 31,136
; REFERENCE/DOCKET NUMBER: 19017/166
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (608)258-5035
; TELEFAX: (608)258-4258
; INFORMATION FOR SEQ ID NO: 14:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 548 amino acids
; TYPE: amino acid

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; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-487-183A-14

Query Match      99.7%; Score 2815; DB 4; Length 548;
Best Local Similarity 99.8%; Pred. No. 2.7e-288;
Matches 547; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 MENMENDENIVGPEPPYPIEBSAGAKLRKYMDRYAKLGAIAFTNALTGVDTYAEYLE 60
DB 1 MENMENDENIVGPEPPYPIEBSAGAKLRKYMDRYAKLGAIAFTNALTGVDTYAEYLE 60
QY 61 KSCCLGEALKNYGLVVDGRIALCSECEFFPIVLAGLFIGVGVAPTNEIYTLRELHSL 120
DB 61 KSCCLGEALKNYGLVVDGRIALCSECEFFPIVLAGLFIGVGVAPTNEIYTLRELHSL 120
QY 121 GISKPTIVFSSKGLDKVITVQKTVAIKTIIVILDSKVDYRGYQSMDFIKKNTPOGFKG 180
DB 121 GISKPTIVFSSKGLDKVITVQKTVAIKTIIVILDSKVDYRGYQSMDFIKKNTPOGFKG 180
QY 181 SSFKTVEVNRKQVALIMNMSGSTGLPKGVQLTHENAVTRFSHARDDPIYGNQVSPGTAIL 240
DB 181 SSFKTVEVNRKQVALIMNMSGSTGLPKGVQLTHENAVTRFSHARDDPIYGNQVSPGTAIL 240
QY 241 TVPFFHGFMTTLGTLTCGFRIVMTKFDDEETFLTKLDQYKCSSVILVPTLFAILNRS 300
DB 241 TVPFFHGFMTTLGTLTCGFRIVMTKFDDEETFLTKLDQYKCSSVILVPTLFAILNRS 300
QY 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAVARFNLPGVROGYGLTETTSAILITPEGDDK 360
DB 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAVARFNLPGVROGYGLTETTSAILITPEGDDK 360
QY 361 PGASGVVPLFKAVIDLDTKKTLPNRRGEVCVKPMLMKGYVDNPEATREIIDEGWL 420
DB 361 PGASGVVPLFKAVIDLDTKKTLPNRRGEVCVKPMLMKGYVDNPEATREIIDEGWL 420
QY 421 HTGDIGYDEEKHFFIVDLKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDIAG 480
DB 421 HTGDIGYDEEKHFFIVDLKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDIAG 480
QY 481 ELPGAVVVLLEKGSMTKEKVMYVAVSQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
DB 481 ELPGAVVVLLEKGSMTKEKVMYVAVSQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
QY 541 LKKPVAKM 548
DB 541 LKKPVAKM 548

RESULT 6
US-09-396-154-28
; Sequence 28, Application US/09396:154
; Patent No. 6602677
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Hall, Mary P.
; TITLE OF INVENTION: Thermostable luciferases and methods of
; production
; FILE REFERENCE: 341.012US1
; CURRENT FILING DATE: 1999-09-15
; EARLIER FILING DATE: 1998-09-18
; EARLIER APPLICATION NUMBER: PCT/US98/19494
; EARLIER FILING DATE: 1998-09-18
; EARLIER APPLICATION NUMBER: US 60/059,379
; EARLIER FILING DATE: 1997-09-19
; NUMBER OF SEQ ID NOS: 93
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 28
; LENGTH: 548
; TYPE: PRT
; ORGANISM: Luciola lateralis

; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-09-396-154-28

Query Match      99.7%; Score 2814; DB 4; Length 548;
Best Local Similarity 99.6%; Pred. No. 3.5e-288;
Matches 546; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 MENMENDENIVGPEPPYPIEBSAGAKLRKYMDRYAKLGAIAFTNALTGVDTYAEYLE 60
DB 1 MENMENDENIVGPEPPYPIEBSAGAKLRKYMDRYAKLGAIAFTNALTGVDTYAEYLE 60
QY 61 KSCCLGEALKNYGLVVDGRIALCSECEFFPIVLAGLFIGVGVAPTNEIYTLRELHSL 120
DB 61 KSCCLGEALKNYGLVVDGRIALCSECEFFPIVLAGLFIGVGVAPTNEIYTLRELHSL 120
QY 121 GISKPTIVFSSKGLDKVITVQKTVAIKTIIVILDSKVDYRGYQSMDFIKKNTPOGFKG 180
DB 121 GISKPTIVFSSKGLDKVITVQKTVAIKTIIVILDSKVDYRGYQSMDFIKKNTPOGFKG 180
QY 181 SSFKTVEVNRKQVALIMNMSGSTGLPKGVQLTHENAVTRFSHARDDPIYGNQVSPGTAIL 240
DB 181 SSFKTVEVNRKQVALIMNMSGSTGLPKGVQLTHENAVTRFSHARDDPIYGNQVSPGTAIL 240
QY 241 TVPFFHGFMTTLGTLTCGFRIVMTKFDDEETFLTKLDQYKCSSVILVPTLFAILNRS 300
DB 241 TVPFFHGFMTTLGTLTCGFRIVMTKFDDEETFLTKLDQYKCSSVILVPTLFAILNRS 300
QY 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAVARFNLPGVROGYGLTETTSAILITPEGDDK 360
DB 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAVARFNLPGVROGYGLTETTSAILITPEGDDK 360
QY 361 PGASGVVPLFKAVIDLDTKKTLPNRRGEVCVKPMLMKGYVDNPEATREIIDEGWL 420
DB 361 PGASGVVPLFKAVIDLDTKKTLPNRRGEVCVKPMLMKGYVDNPEATREIIDEGWL 420
QY 421 HTGDIGYDEEKHFFIVDLKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDIAG 480
DB 421 HTGDIGYDEEKHFFIVDLKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDIAG 480
QY 481 ELPGAVVVLLEKGSMTKEKVMYVAVSQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
DB 481 ELPGAVVVLLEKGSMTKEKVMYVAVSQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
QY 541 LKKPVAKM 548
DB 541 LKKPVAKM 548

RESULT 7
US-08-460-934-9
; Sequence 9, Application US/08460934
; Patent No. 5814465
; GENERAL INFORMATION:
; APPLICANT: TATSUMI, HIROKI
; APPLICANT: FUKUDA, SATOSHI
; APPLICANT: KIKUCHI, MAMORU
; APPLICANT: KOYAMA, YASUJI
; TITLE OF INVENTION: BIOTINYLATED FIREFLY LUCIFERASE, A GENE
; FOR BIOTINYLATED FIREFLY LUCIFERASE, A RECOMBINANT DNA, A
; TITLE OF INVENTION: PROCESS FOR PRODUCING BIOTINATED AND A BIOLUMINESCENT
; TITLE OF INVENTION: ANALYSIS METHOD
; NUMBER OF SEQUENCES: 14
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT,
; ADDRESSEE: P.C.
; STREET: 1755 S. JEFFERSON DAVIS HIGHWAY, FOURTH FLOOR
; CITY: ARLINGTON
; STATE: VA
; COUNTRY: USA
; ZIP: 22202
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
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; SOFTWARE: PatentIn Release #1.0, Version #1.30
 ; CURRENT APPLICATION DATA:
 ; APPLICATION NUMBER: US/08/460,934
 ; FILING DATE: 05-JUN-1995
 ; CLASSIFICATION: 435
 ; PRIOR APPLICATION DATA:
 ; APPLICATION NUMBER: JP 193798/1994
 ; FILING DATE: 27-JUL-1994
 ; PRIOR APPLICATION DATA:
 ; APPLICATION NUMBER: JP 54625/1995
 ; FILING DATE: 14-MAR-1995
 ; PRIOR APPLICATION DATA:
 ; APPLICATION NUMBER: JP 98857/1995
 ; FILING DATE: 24-APR-1995
 ; ATTORNEY/AGENT INFORMATION:
 ; NAME: OBLON, NORMAN F.
 ; REGISTRATION NUMBER: 24,618
 ; REFERENCE/DOCKET NUMBER: 7126-001-0
 ; TELECOMMUNICATION INFORMATION:
 ; TELEPHONE: 703-413-3000
 ; TELEFAX: 703-413-2220
 ; INFORMATION FOR SEQ ID NO: 9:
 ; SEQUENCE CHARACTERISTICS:
 ; LENGTH: 636 amino acids
 ; TYPE: amino acid
 ; TOPOLOGY: linear
 ; MOLECULE TYPE: protein
 ; US-08-460-934-9

Query Match 99.6%; Score 2813; DB 2; Length 636;

Best Local Similarity 99.8%; Pred. No. 5.8e-288; Mismatches 1; Indels 0; Gaps 0;

Matches 546; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY	1	MENNENDENIVGPEPPYPIEESGAGLRYKMDRYAKLGAIAFTNALTGVDTYAEYLE	60
Db	1	MENNENDENIVGPEPPYPIEESGAGLRYKMDRYAKLGAIAFTNALTGVDTYAEYLE	60
QY	61	KSCCLGALKNYGLVVDGRIALSCENCEFFIPVLAGLFIGVGVAPTNIEYTLRELVHSL	120
Db	61	KSCCLGALKNYGLVVDGRIALSCENCEFFIPVLAGLFIGVGVAPTNIEYTLRELVHSL	120
QY	121	GISKPTIVFSSKGLDKVITVQKTVAITKIVILDSKVDYRGYSQMDNFIKNTPOGFKG	180
Db	121	GISKPTIVFSSKGLDKVITVQKTVAITKIVILDSKVDYRGYSQMDNFIKNTPOGFKG	180
QY	181	SSPKTEVNRKEQVALIMNSSGSTGLPKGVQLTHENAVTRFSHARDPIYGNVSPGTAIL	240
Db	181	SSPKTEVNRKEQVALIMNSSGSTGLPKGVQLTHENAVTRFSHARDPIYGNVSPGTAIL	240
QY	241	TVVPFHGFGMFTTGLYTCGPRIVMLTKFDETFLLKTDYKCSSVILVPTLFAILNRS	300
Db	241	TVVPFHGFGMFTTGLYTCGPRIVMLTKFDETFLLKTDYKCSSVILVPTLFAILNRS	300
QY	301	ELLDKYDLSNLVIAISGAPLSKEIGAVARRNLPVGRQGYGLTETTSALITPEGDDK	360
Db	301	ELLDKYDLSNLVIAISGAPLSKEIGAVARRNLPVGRQGYGLTETTSALITPEGDDK	360
QY	361	PGASGVKVPFLFAKVIDLDTKTLGNRRGEVGVKGPMLKGVVDNPEATRIIIEEGWL	420
Db	361	PGASGVKVPFLFAKVIDLDTKTLGNRRGEVGVKGPMLKGVVDNPEATRIIIEEGWL	420
QY	421	HTGDIGYDEBEKHFIVDLKSLIKYKGYQVPPAELESVLLQHPNIFDAGVAGVDPDIAG	480
Db	421	HTGDIGYDEBEKHFIVDLKSLIKYKGYQVPPAELESVLLQHPNIFDAGVAGVDPDIAG	480
QY	481	ELPGAVVLEKSGMTEKEMVMDVVASQVSNKELRGVRFVDEVPKGLTKIDGKAIREI	540
Db	481	ELPGAVVLEKSGMTEKEMVMDVVASQVSNKELRGVRFVDEVPKGLTKIDGKAIREI	540
QY	541	LKRPVAK 547	
Db	541	LKRPVAK 547	

RESULT 8

US-08-782-118-9

; Sequence 9, Application US/08782118

; Patent No. 5843746

; GENERAL INFORMATION:

; APPLICANT: TATSUMI, HIROKI

; APPLICANT: FUKUDA, SATOSHI

; APPLICANT: KIKUCHI, MAMORU

; APPLICANT: KOYAMA, YASUJI

; TITLE OF INVENTION: BIOTINYLATED FIREFLY LUCIFERASE, A GENE

; TITLE OF INVENTION: FOR BIOTINYLATED FIREFLY LUCIFERASE, A RECOMBINANT DNA, A

; TITLE OF INVENTION: PROCESS FOR PRODUCING BIOTINATED AND A BIOLUMINESCENT

; NUMBER OF SEQUENCES: 14

; CORRESPONDENCE ADDRESS:

; ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT,

; ADDRESSEE: P.C. JEFFERSON DAVIS HIGHWAY, FOURTH FLOOR

; STREET: 1755 S. JEFFERSON DAVIS HIGHWAY, FOURTH FLOOR

; CITY: ARLINGTON

; STATE: VA

; COUNTRY: USA

; ZIP: 22202

; COMPUTER READABLE FORM:

; MEDIUM TYPE: Floppy disk

; COMPUTER: IBM PC compatible

; OPERATING SYSTEM: PC-DOS/MS-DOS

; SOFTWARE: PatentIn Release #1.0, Version #1.30

; CURRENT APPLICATION DATA:

; APPLICATION NUMBER: US/08/782,118

; FILING DATE: 13-JAN-1997

; CLASSIFICATION: 435

; PRIOR APPLICATION DATA:

; APPLICATION NUMBER: US 08/460,934

; FILING DATE: 05-JUN-1995

; APPLICATION NUMBER: JP 193798/1994

; FILING DATE: 27-JUL-1994

; PRIOR APPLICATION DATA:

; APPLICATION NUMBER: JP 54625/1995

; FILING DATE: 14-MAR-1995

; PRIOR APPLICATION DATA:

; APPLICATION NUMBER: JP 98857/1995

; FILING DATE: 24-APR-1995

; ATTORNEY/AGENT INFORMATION:

; NAME: OBLON, NORMAN F.

; REGISTRATION NUMBER: 24,618

; REFERENCE/DOCKET NUMBER: 7126-001-0

; TELECOMMUNICATION INFORMATION:

; TELEPHONE: 703-413-3000

; TELEFAX: 703-413-2220

; INFORMATION FOR SEQ ID NO: 9:

; SEQUENCE CHARACTERISTICS:

; LENGTH: 636 amino acids

; TYPE: amino acid

; TOPOLOGY: linear

; MOLECULE TYPE: protein

US-08-782-118-9

Query Match 99.6%; Score 2813; DB 2; Length 636;

Best Local Similarity 99.8%; Pred. No. 5.8e-288;

Matches 546; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY	1	MENNENDENIVGPEPPYPIEESGAGLRYKMDRYAKLGAIAFTNALTGVDTYAEYLE	60
Db	1	MENNENDENIVGPEPPYPIEESGAGLRYKMDRYAKLGAIAFTNALTGVDTYAEYLE	60
QY	61	KSCCLGALKNYGLVVDGRIALSCENCEFFIPVLAGLFIGVGVAPTNIEYTLRELVHSL	120
Db	61	KSCCLGALKNYGLVVDGRIALSCENCEFFIPVLAGLFIGVGVAPTNIEYTLRELVHSL	120
QY	121	GISKPTIVFSSKGLDKVITVQKTVAITKIVILDSKVDYRGYSQMDNFIKNTPOGFKG	180
Db	121	GISKPTIVFSSKGLDKVITVQKTVAITKIVILDSKVDYRGYSQMDNFIKNTPOGFKG	180

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QY 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENAVTRFSHARDPIYGNQVSPGTAIL 240
DB 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENAVTRFSHARDPIYGNQVSPGTAIL 240
QY 241 TVPFFHHGFGMTTLLGYLTCGPRIVMLTKFDEBETFLKTLQDYKCSSVILVPTLFAILNRS 300
DB 241 TVPFFHHGFGMTTLLGYLTCGPRIVMLTKFDEBETFLKTLQDYKCSSVILVPTLFAILNRS 300
QY 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAVAREFNLPGVROQVGLTETTSAILITPEGGDK 360
DB 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAVAREFNLPGVROQVGLTETTSAILITPEGGDK 360
QY 361 PGASGKVVPLFKAKVIDLDTKTLGNRRGEVYCVKGPMLMGKYVDNPEATREIIDEEGWL 420
DB 361 PGASGKVVPLFKAKVIDLDTKTLGNRRGEVYCVKGPMLMGKYVDNPEATREIIDEEGWL 420
QY 421 HTGDIYYDEEKHFFIVDRLSLIIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPPIAG 480
DB 421 HTGDIYYDEEKHFFIVDRLSLIIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPPIAG 480
QY 481 ELPGAVVVLKKGKSMTEKEVMDYVASQVSNAXRLRGGVRFVDEVPKGLTGKIDGKAIREI 540
DB 481 ELPGAVVVLKKGKSMTEKEVMDYVASQVSNAXRLRGGVRFVDEVPKGLTGKIDGKAIREI 540
QY 541 LKKPVAK 547
DB 541 LKKPVAK 547

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RESULT 9
US-09-111-752-14
; Sequence 14, Application US/09111752
; Patent No. 6074859
; GENERAL INFORMATION:
; APPLICANT: HIROKAWA, KOZO
; APPLICANT: KAJIYAMA, NAKOI
; APPLICANT: MURAKAMI, SEIJI
; TITLE OF INVENTION: MUTANT-TYPE BIOLUMINESCENT PROTEIN, AND
; TITLE OF INVENTION: PROCESS FOR PRODUCING MUTANT-TYPE LUMINESCENT PROTEIN
; NUMBER OF SEQUENCES: 14
; CORRESPONDENCE ADDRESS:
; ADDRESSER: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT,
; STREET: 1755 S. JEFFERSON DAVIS HIGHWAY, SUITE 400
; CITY: ARLINGTON
; STATE: VA
; COUNTRY: USA
; ZIP: 22202
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/111,752
; FILING DATE: 08-JUL-1998
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: OBLON, NORMAN F.
; REGISTRATION NUMBER: 24,618
; REFERENCE/DOCKET NUMBER: 7126-0009-0
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 703-413-3000
; TELEFAX: 703-413-2220
; INFORMATION FOR SEQ ID NO: 14:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 548 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
US-09-111-752-14

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Query Match 99.5%; Score 2808; DB 3; Length 548;
Best Local Similarity 99.5%; Pred. No. 1.5e-287;
Matches 545; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 1 MENMENDENIVYGPPEFYPIEBSAGALRYKMDRYAKLGAIATAFTNALTGVDTYAEYLE 60
DB 1 MENMENDENIVYGPPEFYPIEBSAGALRYKMDRYAKLGAIATAFTNALTGVDTYAEYLE 60
QY 61 KSCCLGALKNYGLVVDGRIALCSECEEFPIVLAGLFIGVGVAPNEIYTLRELVHSL 120
DB 61 KSCCLGALKNYGLVVDGRIALCSECEEFPIVLAGLFIGVGVAPNEIYTLRELVHSL 120
QY 121 GISKPTTVFSSKKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQSMDFIKKNTPOGFKG 180
DB 121 GISKPTTVFSSKKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQSMDFIKKNTPOGFKG 180
QY 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENAVTRFSHARDPIYGNQVSPGTAIL 240
DB 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENAVTRFSHARDPIYGNQVSPGTAIL 240
QY 241 TVPFFHHGFGMTTLLGYLTCGPRIVMLTKFDEBETFLKTLQDYKCSSVILVPTLFAILNRS 300
DB 241 TVPFFHHGFGMTTLLGYLTCGPRIVMLTKFDEBETFLKTLQDYKCSSVILVPTLFAILNRS 300
QY 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAVARRFNLPGVROQVGLTETTSAILITPEGGDK 360
DB 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAVARRFNLPGVROQVGLTETTSAILITPEGGDK 360
QY 361 PGASGKVVPLFKAKVIDLDTKTLGNRRGEVYCVKGPMLMGKYVDNPEATREIIDEEGWL 420
DB 361 PGASGKVVPLFKAKVIDLDTKTLGNRRGEVYCVKGPMLMGKYVDNPEATREIIDEEGWL 420
QY 421 HTGDIYYDEEKHFFIVDRLSLIIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPPIAG 480
DB 421 HTGDIYYDEEKHFFIVDRLSLIIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPPIAG 480
QY 481 ELPGAVVVLKKGKSMTEKEVMDYVASQVSNAXRLRGGVRFVDEVPKGLTGKIDGKAIREI 540
DB 481 ELPGAVVVLKKGKSMTEKEVMDYVASQVSNAXRLRGGVRFVDEVPKGLTGKIDGKAIREI 540
QY 541 LKKPVAK 548
DB 541 LKKPVAK 548

RESULT 10
US-09-602-628-10
; Sequence 10, Application US/09602628
; Patent No. 6495355
; GENERAL INFORMATION:
; APPLICANT: Eames, Brian
; APPLICANT: Contag, Christopher
; TITLE OF INVENTION: Red-Shifted Luciferase
; FILE REFERENCE: SUN-127
; CURRENT APPLICATION NUMBER: US/09/602,628
; PRIOR FILING DATE: 2000-06-21
; PRIOR APPLICATION NUMBER: 60/140,598
; PRIOR FILING DATE: 1993-06-22
; NUMBER OF SEQ ID NOS: 12
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 10
; LENGTH: 548
; TYPE: PRT
; ORGANISM: Luciola lateralis
US-09-602-628-10

Query Match 99.3%; Score 2802; DB 4; Length 548;
Best Local Similarity 99.1%; Pred. No. 6.5e-287;
Matches 543; Conservative 3; Mismatches 2; Indels 0; Gaps 0;

QY 1 MENMENDENIVYGPPEFYPIEBSAGALRYKMDRYAKLGAIATAFTNALTGVDTYAEYLE 60

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Db 1 MEMNDENIVGPKFPPIEBSAGAQURKYMDRYAKLGAIAFTNALTGVDTYVAEYLE 60
QY 61 KSCCLGALKNYGLVVDGRIALCSECEFFIPVLAGLFIGVGVAPTNEIYTLRELHSL 120
Db 61 KSCCLGALKNYGLVVDGRIALCSECEFFIPVLAGLFIGVGVAPTNEIYTLRELHSL 120
QY 121 GSKPTIVSSKGLDKVITVQKTAIKTIIVILSKVDYRGYQSDNFIKNTPPGFKG 180
Db 121 GSKPTIVSSKGLDKVITVQKTAIKTIIVILSKVDYRGYQSDNFIKNTPPGFKG 180
QY 181 SSFKTIVNRKEQVALIMNSSSGTGLPKGVQLTHENAVTRFSHARDPIYGNVSPCTAIL 240
Db 181 SSFKTIVNRKEQVALIMNSSSGTGLPKGVQLTHENAVTRFSHARDPIYGNVSPCTAIL 240
QY 241 TVPFFHFGMFTTGLYTCGPRIVMLTKFDEETFLKTLQDYKCSVILVPTLFAILNRS 300
Db 241 TVPFFHFGMFTTGLYTCGPRIVMLTKFDEETFLKTLQDYKCSVILVPTLFAILNRS 300
QY 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAVARFNLPGVZOGYGLTETTSAILIITPEGDDK 360
Db 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAVARFNLPGVZOGYGLTETTSAILIITPEGDDK 360
QY 361 PGASGVKVPPLFKAKVIDLDTKKTLPNRRGEVCKGPMKMGYVNDPEATREIIDEAGWL 420
Db 361 PGASGVKVPPLFKAKVIDLDTKKTLPNRRGEVCKGPMKMGYVNDPEATREIIDEAGWL 420
QY 421 HTGDIGYDEEKKHFFIVDRILKSLIKYKGVQVPPAELESVLLQHPNIFDAGVAGVDPPIAG 480
Db 421 HTGDIGYDEEKKHFFIVDRILKSLIKYKGVQVPPAELESVLLQHPNIFDAGVAGVDPPIAG 480
QY 481 ELPGAVVLEKSKMTEKXEMDVASQVSNKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
Db 481 ELPGAVVLEKSKMTEKXEMDVASQVSNKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
QY 541 LKXPKVAKM 548
Db 541 LKXPKVAKM 548

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RESULT 11

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US-08-460-934-6
; Sequence 6, Application US/08460934
; Patent No. 5814465
; GENERAL INFORMATION:
; APPLICANT: TATSUMI, HIROKI
; APPLICANT: FUKUDA, SATOSHI
; APPLICANT: KIKUCHI, NAMORU
; APPLICANT: KAWADA, YASUJI
; TITLE OF INVENTION: BIOTINYLATED FIREFLY LUCIFERASE, A GENE
; TITLE OF INVENTION: FOR BIOTINYLATED FIREFLY LUCIFERASE, A RECOMBINANT DNA, A
; TITLE OF INVENTION: PROCESS FOR PRODUCING BIOTINATED AND A BIOLUMINESCENT
; TITLE OF INVENTION: ANALYSIS METHOD
; NUMBER OF SEQUENCES: 14
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, WAIVER & NEUSTADT,
; STREET: 1755 S. JEFFERSON DAVIS HIGHWAY, FOURTH FLOOR
; CITY: ARLINGTON
; STATE: VA
; COUNTRY: USA
; ZIP: 22202
; COMPUTER READABLE FORM: disk
; MEDIUM TYPE: Floppy
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/460,934
; FILING DATE: 05-JUN-1995
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: JP 193798/1994
; FILING DATE: 27-JUL-1994

```

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; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: JP 54625/1995
; FILING DATE: 14-MAR-1995
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: JP 98857/1995
; FILING DATE: 24-APR-1995
; ATTORNEY/AGENT INFORMATION:
; NAME: OBLON, NORMAN F.
; REGISTRATION NUMBER: 24,618
; REFERENCE/DOCKET NUMBER: 7126-001-0
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 703-413-3000
; TELEFAX: 703-413-2220
; INFORMATION FOR SEQ ID NO: 6:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 568 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; US-08-460-934-6

Query Match 99.2%; Score 2800; DB 2; Length 568;
Best Local Similarity 99.5%; Pred. No. 1.1e-286;
Matches 543; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

QY 3 NMENDENIVGPKFPPIEBSAGAQURKYMDRYAKLGAIAFTNALTGVDTYVAEYLEKS 62
Db 23 SLENDENIVGPKFPPIEBSAGAQURKYMDRYAKLGAIAFTNALTGVDTYVAEYLEKS 82
QY 63 CCLGALKNYGLVVDGRIALCSECEFFIPVLAGLFIGVGVAPTNEIYTLRELHSLGI 122
Db 83 CCLGALKNYGLVVDGRIALCSECEFFIPVLAGLFIGVGVAPTNEIYTLRELHSLGI 142
QY 123 SKPTIVSSKGLDKVITVQKTAIKTIIVILSKVDYRGYQSDNFIKNTPPGFKGSS 182
Db 143 SKPTIVSSKGLDKVITVQKTAIKTIIVILSKVDYRGYQSDNFIKNTPPGFKGSS 202
QY 183 FKTVEVNRKEQVALIMNSSSGTGLPKGVQLTHENAVTRFSHARDPIYGNVSPGTAILTV 242
Db 203 FKTVEVNRKEQVALIMNSSSGTGLPKGVQLTHENAVTRFSHARDPIYGNVSPGTAILTV 262
QY 243 VPFHFGMFTTGLYTCGPRIVMLTKFDEETFLKTLQDYKCSVILVPTLFAILNRS 302
Db 263 VPFHFGMFTTGLYTCGPRIVMLTKFDEETFLKTLQDYKCSVILVPTLFAILNRS 322
QY 303 LDKYDLSNLVEIASGGAPLSKEIGEAVARFNLPGVZOGYGLTETTSAILIITPEGDDKPG 362
Db 323 LDKYDLSNLVEIASGGAPLSKEIGEAVARFNLPGVZOGYGLTETTSAILIITPEGDDKPG 382
QY 363 ASGVKVPPLFKAKVIDLDTKKTLPNRRGEVCKGPMKMGYVNDPEATREIIDEAGWLHT 422
Db 383 ASGVKVPPLFKAKVIDLDTKKTLPNRRGEVCKGPMKMGYVNDPEATREIIDEAGWLHT 442
QY 423 GDIGYDEEKKHFFIVDRILKSLIKYKGVQVPPAELESVLLQHPNIFDAGVAGVDPPIAGEL 482
Db 443 GDIGYDEEKKHFFIVDRILKSLIKYKGVQVPPAELESVLLQHPNIFDAGVAGVDPPIAGEL 502
QY 483 PGAVVLEKSKMTEKXEMDVASQVSNKRLRGVRFVDEVPKGLTGKIDGKAIREILK 542
Db 503 PGAVVLEKSKMTEKXEMDVASQVSNKRLRGVRFVDEVPKGLTGKIDGKAIREILK 562
QY 543 KPVAKM 548
Db 563 KPVAKM 568

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RESULT 12

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US-08-782-118-6
; Sequence 6, Application US/08782118
; Patent No. 5843746
; GENERAL INFORMATION:
; APPLICANT: TATSUMI, HIROKI
; APPLICANT: FUKUDA, SATOSHI

```

APPLICANT: KIKUCHI, MAMORU
APPLICANT: KOYAMA, YASUJI
TITLE OF INVENTION: BIOTINYLATED FIREFLY LUCIFERASE, A GENE
TITLE OF INVENTION: FOR BIOTINYLATED FIREFLY LUCIFERASE, A RECOMBINANT DNA, A
TITLE OF INVENTION: PROCESS FOR PRODUCING BIOTINATED AND A BIOLUMINESCENT
TITLE OF INVENTION: ANALYSIS METHOD
NUMBER OF SEQUENCES: 14
CORRESPONDENCE ADDRESS:
ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT,
CITY: ARLINGTON
STATE: VA
COUNTRY: USA
ZIP: 22202
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US 08/460,934
FILING DATE: 05-JUN-1995
FILING DATE: 27-JUL-1994
PRIORITY APPLICATION DATA:
APPLICATION NUMBER: JP 54625/1995
FILING DATE: 14-MAR-1995
PRIORITY APPLICATION DATA:
APPLICATION NUMBER: JP 98857/1995
FILING DATE: 24-APR-1995
ATTORNEY/AGENT INFORMATION:
NAME: OBLON, NORMAN F.
REGISTRATION NUMBER: 24,618
REFERENCE/DOCKET NUMBER: 7126-001-0
TELECOMMUNICATION INFORMATION:
TELEPHONE: 703-413-3000
TELEFAX: 703-413-2220
INFORMATION FOR SEQ ID NO: 6:
SEQUENCE CHARACTERISTICS:
LENGTH: 568 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
US-08-782-118-6

Query Match 99.2%; Score 2800; DB 2; Length 568;
Best Local Similarity 99.5%; Pred. No. 1.1e-286;
Matches 543; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

QY	3	NMENENIVGPEPPYPIEGSAGQLKRYMDRYAKLGAIAFTNALTGVDTYAEYLSKS	62
DB	23	SLNDENIVGPEPPYPIEGSAGQLKRYMDRYAKLGAIAFTNALTGVDTYAEYLSKS	82
QY	63	CCLGEALKNYGLVWDRIALCSNCEEPFIPVLGLFTGVGAPTNIEYTLRELVHSLGI	122
DB	83	CCLGEALKNYGLVWDRIALCSNCEEPFIPVLGLFTGVGAPTNIEYTLRELVHSLGI	142
QY	123	SKPTIVFSSKGLDKVITVQKTVTAIKTIVILDSKYDVRGYQSMDFIKONTPOQFGKSS	182
DB	143	SKPTIVFSSKGLDKVITVQKTVTAIKTIVILDSKYDVRGYQSMDFIKONTPOQFGKSS	202
QY	183	EKTVEVNRKEQVALIMNSGSLPKGVOLTHENAVTRFSHARDPIYGNVSPGTAILTV	242
DB	203	EKTVEVNRKEQVALIMNSGSLPKGVOLTHENAVTRFSHARDPIYGNVSPGTAILTV	262
QY	243	VPFHFGFGFTTGLVLTCTGFRIVMLTKFDEETFLKTLQDYKCSSVILVPTLFAILNRS	302
DB	263	VPFHFGFGFTTGLVLTCTGFRIVMLTKFDEETFLKTLQDYKCSSVILVPTLFAILNRS	322

QY	303	LDKYDLSNLVRIASGAPLSKEIGEAVARRNLPQVRQGYGLTETTSALITTPGDDKPG	362
DB	323	LDKYDLSNLVRIASGAPLSKEIGEAVARRNLPQVRQGYGLTETTSALITTPGDDKPG	382
QY	363	ASGKVVPFLFAKVIDLDTKTKTLGNRRGEVCVKGMKMGVVDNPEATREIIDEGWMLHT	422
DB	383	ASGKVVPFLFAKVIDLDTKTKTLGNRRGEVCVKGMKMGVVDNPEATREIIDEGWMLHT	442
QY	423	GDIGYDDEKHEFFIVDRLSKSLIKYKQVPPAELESVLLQHPNIFDAGVAGVPPPIAGEL	482
DB	443	GDIGYDDEKHEFFIVDRLSKSLIKYKQVPPAELESVLLQHPNIFDAGVAGVPPPIAGEL	502
QY	483	PGAVVLEKSKMTEKEMVMDYVASQVSNKRLRGVRFVDEVPKGLTKIDGKAIRILK	542
DB	503	PGAVVLEKSKMTEKEMVMDYVASQVSNKRLRGVRFVDEVPKGLTKIDGKAIRILK	562
QY	543	KPVAKM	548
DB	563	KPVAKM	568

RESULT 13
US-09-111-752-10
; Sequence 10, Application US/09111752
; Patent No. 6074859
; GENERAL INFORMATION:
; APPLICANT: HIROKAWA, KOZO
; APPLICANT: KAJIYAMA, NAOKI
; APPLICANT: MURAKAMI, SEIJI
; TITLE OF INVENTION: MUTANT-TYPE BIOLUMINESCENT PROTEIN, AND
; TITLE OF INVENTION: PROCESS FOR PRODUCING MUTANT-TYPE LUMINESCENT PROTEIN
; NUMBER OF SEQUENCES: 14
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT,
; ADDRESS: P.C.
; STREET: 1755 S. JEFFERSON DAVIS HIGHWAY, SUITE 400
; CITY: ARLINGTON
; STATE: VA
; COUNTRY: USA
; ZIP: 22202
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/111,752
; FILING DATE: 08-JUL-1998
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: OBLON, NORMAN F.
; REGISTRATION NUMBER: 24,618
; REFERENCE/DOCKET NUMBER: 7126-0009-0
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 703-413-3000
; TELEFAX: 703-413-2220
; INFORMATION FOR SEQ ID NO: 10:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 552 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; ORIGINAL SOURCE:
; ORGANISM: Luciola lateralis, Photinus pyralis
US-09-111-752-10

Query Match 95.7%; Score 2702; DB 3; Length 552;
Best Local Similarity 96.3%; Pred. No. 2.4e-276;
Matches 523; Conservative 9; Mismatches 11; Indels 0; Gaps 0;

QY 1 MENMENENIVGPEPPYPIEGSAGQLKRYMDRYAKLGAIAFTNALTGVDTYAEYLS 60

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Db 1 MENMENDENIVGPEPPYPIEESAGALRYKMDRYAKLGAIAFTNALTGVDTYAEYLE 60
QY 61 KSCCLGEALKNYGLVVDGRIALCSECEFFPIVLAGLFIGVGVAPTNEIYTLRELHSHL 120
Db 61 KSCCLGEALKNYGLVVDGRIALCSECEFFPIVLAGLFIGVGVAPTNEIYTLRELHSHL 120
QY 121 GISKPTIVFSSKGLDKVITVQKTVAITKIIVILDSKVDYRGYQSMNDPIKNTPOGFKG 180
Db 121 GISKPTIVFSSKGLDKVITVQKTVAITKIIVILDSKVDYRGYQSMNDPIKNTPOGFKG 180
QY 181 SSFPTVEVRKEQVALIMNSSSGTGLPKGVQLTHENAVTRFSHARDPIYGNVSPGTAIL 240
Db 181 SSFPTVEVRKEQVALIMNSSSGTGLPKGVQLTHENAVTRFSHARDPIYGNVSPGTAIL 240
QY 241 TVVPFHGFGMFTTGLYTCGFRIVMLTKFDEBETFLKTLQDYKCSVILVPTLFAILNRS 300
Db 241 TVVPFHGFGMFTTGLYTCGFRIVMLTKFDEBETFLKTLQDYKCSVILVPTLFAILNRS 300
QY 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAARVFNLPGRVQGYGLTETTSAILITPBGDDK 360
Db 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAARVFNLPGRVQGYGLTETTSAILITPBGDDK 360
QY 361 PGASGVVPLFKAKVIDLDTKKTLPNRRGEVCVKGPMLMKGVVDNPEATREIIDEEGWL 420
Db 361 PGASGVVPLFKAKVIDLDTKKTLPNRRGEVCVKGPMLMKGVVDNPEATREIIDEEGWL 420
QY 421 HTGDIGYDEEKHFFIVDRILKSLIKYKGYQVPAELESVLLQHPNIFDAGVAGVDPPIAG 480
Db 421 HTGDIGYDEEKHFFIVDRILKSLIKYKGYQVPAELESVLLQHPNIFDAGVAGVDPPIAG 480
QY 481 ELPGAUVVLEKGSMTKEVMDVYASOVSNAKRLRGVRFVDEVPKGLTKIDGKAIREI 540
Db 481 ELPGAUVVLEKGSMTKEVMDVYASOVSNAKRLRGVRFVDEVPKGLTKIDGKAIREI 540
QY 541 LKK 543
Db 541 LK 543

```

```

RESULT 14
US-07-675-211-2
; Sequence 2, Application US/07675211
; Patent No. 5219737
; GENERAL INFORMATION:
; APPLICANT: KAJIYAMA, NAOKI
; APPLICANT: NAKANO, EIICHI
; TITLE OF INVENTION: MUTANT LUCIFERASE OF A FIREFLY, MUTANT
; TITLE OF INVENTION: LUCIFERASE GENES, NOVEL RECOMBINANT DNAS CONTAINING THE
; TITLE OF INVENTION: GENES AND A METHOD OF PRODUCING MUTANT LUCIFERASE
; NUMBER OF SEQUENCES: 4
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: PENNIE & EDMONDS
; STREET: 1155 AVENUE OF THE AMERICAS
; CITY: NEW YORK
; STATE: N.Y.
; COUNTRY: U.S.A.
; ZIP: 10036
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/675,211
; FILING DATE: 19910326
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: MISROCK, S. LESLIE
; REGISTRATION NUMBER: 18,872
; REFERENCE/DOCKET NUMBER: 7005-026-999
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 212-790-9090

```

```

; TELEFAX: 212-869-9741
; TELEX: 66141 PENNIE
; INFORMATION FOR SEQ ID NO: 2:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 548 amino acids
; TYPE: AMINO ACID
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; ORIGINAL SOURCE:
; ORGANISM: Luciola cruciata
US-07-675-211-2

Query Match 95.3%; Score 2689; DB 1; Length 548;
Best Local Similarity 93.6%; Pred. No. 5.7e-275; Indels 0; Gaps 0;
Matches 513; Conservative 25; Mismatches 10;

QY 1 MENMENDENIVGPEPPYPIEESAGALRYKMDRYAKLGAIAFTNALTGVDTYAEYLE 60
Db 1 MENMENDENIVGPEPPYPIEESAGALRYKMDRYAKLGAIAFTNALTGVDTYAEYLE 60
QY 61 KSCCLGEALKNYGLVVDGRIALCSECEFFPIVLAGLFIGVGVAPTNEIYTLRELHSHL 120
Db 61 KSCCLGEALKNYGLVVDGRIALCSECEFFPIVLAGLFIGVGVAPTNEIYTLRELHSHL 120
QY 121 GISKPTIVFSSKGLDKVITVQKTVAITKIIVILDSKVDYRGYQSMNDPIKNTPOGFKG 180
Db 121 GISKPTIVFSSKGLDKVITVQKTVAITKIIVILDSKVDYRGYQSMNDPIKNTPOGFKG 180
QY 181 SSFPTVEVRKEQVALIMNSSSGTGLPKGVQLTHENAVTRFSHARDPIYGNVSPGTAIL 240
Db 181 SSFPTVEVRKEQVALIMNSSSGTGLPKGVQLTHENAVTRFSHARDPIYGNVSPGTAIL 240
QY 241 TVVPFHGFGMFTTGLYTCGFRIVMLTKFDEBETFLKTLQDYKCSVILVPTLFAILNRS 300
Db 241 TVVPFHGFGMFTTGLYTCGFRIVMLTKFDEBETFLKTLQDYKCSVILVPTLFAILNRS 300
QY 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAARVFNLPGRVQGYGLTETTSAILITPBGDDK 360
Db 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAARVFNLPGRVQGYGLTETTSAILITPBGDDK 360
QY 361 PGASGVVPLFKAKVIDLDTKKTLPNRRGEVCVKGPMLMKGVVDNPEATREIIDEEGWL 420
Db 361 PGASGVVPLFKAKVIDLDTKKTLPNRRGEVCVKGPMLMKGVVDNPEATREIIDEEGWL 420
QY 421 HTGDIGYDEEKHFFIVDRILKSLIKYKGYQVPAELESVLLQHPNIFDAGVAGVDPPIAG 480
Db 421 HTGDIGYDEEKHFFIVDRILKSLIKYKGYQVPAELESVLLQHPNIFDAGVAGVDPPIAG 480
QY 481 ELPGAUVVLEKGSMTKEVMDVYASOVSNAKRLRGVRFVDEVPKGLTKIDGKAIREI 540
Db 481 ELPGAUVVLEKGSMTKEVMDVYASOVSNAKRLRGVRFVDEVPKGLTKIDGKAIREI 540
QY 541 LKKPVAKM 548
Db 541 LKKPVAKM 548

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RESULT 15
US-07-903-047-2
; Sequence 2, Application US/07903047
; Patent No. 5229285
; GENERAL INFORMATION:
; APPLICANT: KAJIYAMA, NAOKI
; APPLICANT: NAKANO, EIICHI
; TITLE OF INVENTION: Thermostable Luciferase Of Firefly,
; TITLE OF INVENTION: Thermostable Luciferase Gene Of Firefly, No. 5229285el Recombir
; TITLE OF INVENTION: DNA, And Process For The Preparation Of Thermostable
; TITLE OF INVENTION: Luciferase Of Firefly
; NUMBER OF SEQUENCES: 11
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Pennie & Edmonds
; STREET: 1155 Avenue of the Americas
; CITY: New York

```



```

STATE: New York
COUNTRY: U.S.A.
ZIP: 10036-2711
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent In Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/903,047
FILING DATE: 19920623
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: MISROCK, S. LESLIE
REGISTRATION NUMBER: 18,872
REFERENCE/DOCKET NUMBER: 7005-048
TELECOMMUNICATION INFORMATION:
TELEPHONE: 212 790-9090
TELEFAX: 212 869-8864/9741
TELEX: 66141 PENNIE
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 548 amino acids
TYPE: AMINO ACID
STRANDEDNESS: single
TOPOLOGY: unknown
MOLECULE TYPE: peptide
US-07-903-047-2

Query Match          95.3%; Score 2689; DB 1; Length 548;
Best Local Similarity 93.6%; Pred. No. 5.7e-275;
Matches 513; Conservative 25; Mismatches 10; Indels 0; Gaps 0;

QY 1 MENMENDENIVGPPFPPIEGSGAGLRKYMDRYAKLGAIAFTNALTGVDTYVAEYLE 60
DB 1 MENMENDENIVGPPFPPIEGSGAGLRKYMDRYAKLGAIAFTNALTGVDTYVAEYLE 60
QY 61 KSCCLGEALKNYGLVVDGRIALCSECEFFPIVLAGLFIGVGVAPTNEIYTLRELVHSL 120
DB 61 KSCCLGKALQNYGLVVDGRIALCSECEFFPIVLAGLFIGVGVAPTNEIYTLRELVHSL 120
QY 121 GISKPTIVFSSKKGLDKVITVQKTVAITKTIIVILDSKVDYRGYQSMDFIKNTPOGFKG 180
DB 121 GISKPTIVFSSKKGLDKVITVQKTVAITKTIIVILDSKVDYRGYQCLDTFKRNTPPGFOA 180
QY 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENAVTRFSHARDPIYGNVSPGTAFL 240
DB 181 SSFKTVEVDRKEQVALIMNSSGSTGLPKGVQLTHENTVTRFSHARDPIYGNVSPGTAFL 240
QY 241 TVVPFHGFGMFTTLGYLTCGFRIVMLTKFDBETFLKTLQDYKCSSVILVPTLFAILNRS 300
DB 241 TVVPFHGFGMFTTLGYLTCGFRIVMLTKFDBETFLKTLQDYKCSSVILVPTLFAILNRS 300

STATE: New York
COUNTRY: U.S.A.
ZIP: 10036-2711
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent In Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/076,042
FILING DATE: 19920623
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: MISROCK, S. LESLIE
REGISTRATION NUMBER: 18,872
REFERENCE/DOCKET NUMBER: 7005-048
TELECOMMUNICATION INFORMATION:
TELEPHONE: 212 790-9090
TELEFAX: 212 869-8864/9741
TELEX: 66141 PENNIE
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 548 amino acids
TYPE: AMINO ACID
STRANDEDNESS: single
TOPOLOGY: unknown
MOLECULE TYPE: peptide
US-08-076-042-2

Query Match          95.3%; Score 2689; DB 1; Length 548;
Best Local Similarity 93.6%; Pred. No. 5.7e-275;
Matches 513; Conservative 25; Mismatches 10; Indels 0; Gaps 0;

QY 1 MENMENDENIVGPPFPPIEGSGAGLRKYMDRYAKLGAIAFTNALTGVDTYVAEYLE 60
DB 1 MENMENDENIVGPPFPPIEGSGAGLRKYMDRYAKLGAIAFTNALTGVDTYVAEYLE 60
QY 61 KSCCLGEALKNYGLVVDGRIALCSECEFFPIVLAGLFIGVGVAPTNEIYTLRELVHSL 120
DB 61 KSCCLGKALQNYGLVVDGRIALCSECEFFPIVLAGLFIGVGVAPTNEIYTLRELVHSL 120
QY 121 GISKPTIVFSSKKGLDKVITVQKTVAITKTIIVILDSKVDYRGYQSMDFIKNTPOGFKG 180
DB 121 GISKPTIVFSSKKGLDKVITVQKTVAITKTIIVILDSKVDYRGYQCLDTFKRNTPPGFOA 180
QY 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENAVTRFSHARDPIYGNVSPGTAFL 240
DB 181 SSFKTVEVDRKEQVALIMNSSGSTGLPKGVQLTHENTVTRFSHARDPIYGNVSPGTAFL 240
QY 241 TVVPFHGFGMFTTLGYLTCGFRIVMLTKFDBETFLKTLQDYKCSSVILVPTLFAILNRS 300
DB 241 TVVPFHGFGMFTTLGYLTCGFRIVMLTKFDBETFLKTLQDYKCSSVILVPTLFAILNRS 300

```

QY 301 ELLDKYDLSNLVEIASGAPLSKEIGEAVARRFNLPVGRQYGLTETTSAILIITPEGDDK 360
 Db 301 ELLNKYDLSNLVEIASGAPLSKEIGEAVARRFNLPVGRQYGLTETTSAILIITPEGDDK 360
 QY 361 PGASGKVPFLFKAVIDLTKTLGNRRGEVCKGPMMLKGYVNDPEATRIIIEEGWL 420
 Db 361 PGASGKVPFLFKAVIDLTKSLGNRRGEVCKGPMMLKGYVNDPEATRIIIEEGWL 420
 QY 421 HTGDIGYDEEKHFFVDRKLSLKYKGYQVPPAELESVLLQHPNIFDAGVDPDPIAG 480
 Db 421 HTGDIGYDEEKHFFVDRKLSLKYKGYQVPPAELESVLLQHPNIFDAGVDPDPIAG 480
 QY 481 ELPGAVVLEKGSMTKEVMDYVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
 Db 481 ELPGAVVLESGKNMTEKEVMDYVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
 QY 541 LKKEPVAKM 548
 Db 541 LKKEPVAKM 548

RESULT 17
 US-09-380-061B-14
 ; Sequence 14, Application US/09380061B
 ; Patent No. 6265177
 ; GENERAL INFORMATION:
 ; APPLICANT: SQUIRRELL, DAVID JAMES
 ; WHITE, PETER JOHN
 ; LOWE, CHRISTOPHER ROBIN
 ; MURRAY, JAMES AUGUSTUS HENRY
 ; TITLE OF INVENTION: ENZYME ASSAY FOR MUTANT FIREFLY LUCIFERASE
 ; NUMBER OF SEQUENCES: 21
 ; CORRESPONDENCE ADDRESS:
 ; ADDRESSEE: NIXON & VANDERHYE P.C.
 ; STREET: 1100 NORTH GLEBE ROAD
 ; CITY: ARLINGTON
 ; STATE: VIRGINIA
 ; COUNTRY: U.S.A.
 ; ZIP: 22201-4714
 ; COMPUTER READABLE FORM:
 ; MEDIUM TYPE: Floppy disk
 ; COMPUTER: IBM PC compatible
 ; OPERATING SYSTEM: PC-DOS/MS-DOS
 ; SOFTWARE: Patent In Release #1.0, Version #1.25 (BPO)
 ; CURRENT APPLICATION DATA:
 ; APPLICATION NUMBER: US/09/380,061B
 ; FILING DATE: 25-Aug-1999
 ; CLASSIFICATION: <Unknown>
 ; PRIORITY APPLICATION DATA:
 ; APPLICATION NUMBER: PCT/GB98/01026
 ; FILING DATE: 7-APR-1998
 ; APPLICATION NUMBER: GB 9707468.8
 ; FILING DATE: 11-APR-1997
 ; ATTORNEY/AGENT INFORMATION:
 ; NAME: SADOFF, B. J.
 ; REGISTRATION NUMBER: 36,663
 ; REFERENCE/DOCKET NUMBER: 124-725
 ; TELECOMMUNICATION INFORMATION:
 ; TELEPHONE: (703)816-4000
 ; TELEFAX: (703)816-4100
 ; INFORMATION FOR SEQ ID NO: 14:
 ; SEQUENCE CHARACTERISTICS:
 ; LENGTH: 548 amino acids
 ; TYPE: amino acid
 ; TOPOLOGY: linear
 ; MOLECULE TYPE: protein
 ; SEQUENCE DESCRIPTION: SEQ ID NO: 14:

Query Match 95.3%; Score 2689; DB 3; Length 548;
 Best Local Similarity 93.6%; Pred. No. 5.7e-275;
 Matches 513; Conservative 25; Mismatches 10; Indels 0; Gaps 0;

QY 1 MENMENDENIVYGPPEPIEESAGALRKYMDRVAKLGAIAFTNALTGVDVITYAEYLE 60
 Db 1 MENMENDENIVWPKPPPIEESAGTQLRKYMERVAKLGAIAFTNAVITGVDSYAEYLE 60
 QY 61 KSCCLGKALKNYGLVVDGRIALCSECEEEFFIVLAGLFGVGVAPNTNEIYTLRELVHSL 120
 Db 61 KSCCLGKALQNYGLVVDGRIALCSECEEEFFIVLAGLFGVGVAPNTNEIYTLRELVHSL 120
 QY 121 GISKPTTVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQSMDFNKONTPOGFKG 180
 Db 121 GISKPTTVFSSKGLDKVITVQKTVITIKTIVILDSKVDYRGYQCLDTFIKRNTPPGFOA 180
 QY 181 SSFTVTVNRKEQVALIMNSSGSTGLPKGVQLTHENAVTRFSHARDPIYGNQVSPGTAIL 240
 Db 181 SSFTVTVDRKEQVALIMNSSGSTGLPKGVQLTHENTVTRFSHARDPIYGNQVSPGTAVL 240
 QY 241 TVPFFHGFHGMFTTGLYTCGFRIVMLTKDEETFLKTLQDYKCSSVILVPTLFAILNRS 300
 Db 241 TVPFFHGFHGMFTTGLYLICGFVWMLTKDEETFLKTLQDYKCTSVILVPTLFAILNKS 300
 QY 301 ELLDKYDLSNLVEIASGAPLSKEIGEAVARRFNLPVGRQYGLTETTSAILIITPEGDDK 360
 Db 301 ELLNKYDLSNLVEIASGAPLSKEIGEAVARRFNLPVGRQYGLTETTSAILIITPEGDDK 360
 QY 361 PGASGKVPFLFKAVIDLTKTLGNRRGEVCKGPMMLKGYVNDPEATRIIIEEGWL 420
 Db 361 PGASGKVPFLFKAVIDLTKSLGNRRGEVCKGPMMLKGYVNDPEATRIIIEEGWL 420
 QY 421 HTGDIGYDEEKHFFVDRKLSLKYKGYQVPPAELESVLLQHPNIFDAGVDPDPIAG 480
 Db 421 HTGDIGYDEEKHFFVDRKLSLKYKGYQVPPAELESVLLQHPNIFDAGVDPDPIAG 480
 QY 481 ELPGAVVLEKGSMTKEVMDYVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
 Db 481 ELPGAVVLESGKNMTEKEVMDYVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
 QY 541 LKKEPVAKM 548
 Db 541 LKKEPVAKM 548

RESULT 18
 US-09-396-154-27
 ; Sequence 27, Application US/09396154
 ; Patent No. 6602677
 ; GENERAL INFORMATION:
 ; APPLICANT: Wood, Keith V.
 ; APPLICANT: Hall, Mary P.
 ; TITLE OF INVENTION: Thermostable luciferases and methods of
 ; FILE REFERENCE: 341.012US1
 ; CURRENT APPLICATION NUMBER: US/09/396,154
 ; CURRENT FILING DATE: 1999-09-15
 ; EARLIER APPLICATION NUMBER: US 09/156,946
 ; EARLIER FILING DATE: 1998-09-18
 ; EARLIER APPLICATION NUMBER: PCT/US98/19494
 ; EARLIER FILING DATE: 1998-09-18
 ; EARLIER APPLICATION NUMBER: US 60/059,379
 ; EARLIER FILING DATE: 1997-09-19
 ; NUMBER OF SEQ ID NOS: 93
 ; SOFTWARE: fastseq for Windows Version 3.0
 ; SEQ ID NO 27
 ; LENGTH: 548
 ; TYPE: PRT
 ; ORGANISM: Luciola cruciata
 ; US-09-396-154-27

Query Match 95.3%; Score 2689; DB 4; Length 548;
 Best Local Similarity 93.6%; Pred. No. 5.7e-275;
 Matches 513; Conservative 25; Mismatches 10; Indels 0; Gaps 0;

QY 1 MENMENDENIVYGPPEPIEESAGALRKYMDRVAKLGAIAFTNALTGVDVITYAEYLE 60

Db 1 MENMENDENIVGPKPFPIEESGAGTQRLKMYERYAKLGAIAFTNAVTVGVDYSYABYLE 60
Qy 61 KSCCLGKALQNYGLVVDGRIALCSENCEBFFIPVLAGLFIGVGVAPTNEIYTLRELHSL 120
Db 61 KSCCLGKALQNYGLVVDGRIALCSENCEBFFIPVLAGLFIGVGVAPTNEIYTLRELHSL 120
Qy 121 GISKPTIVFSSKGLDKVITVQKTVAIKTIVILDSKVDYRGYQSMDFIKNTPOGFKG 180
Db 121 GISKPTIVFSSKGLDKVITVQKTVAIKTIVILDSKVDYRGYQSMDFIKNTPOGFKG 180
Qy 181 SSFKTVENVNRKEQVALIMNSSGSTGLPKGVQLTHENAVTRFSHARDPIYGNQVSPGTAIL 240
Db 181 SSFKTVENVNRKEQVALIMNSSGSTGLPKGVQLTHENAVTRFSHARDPIYGNQVSPGTAIL 240
Qy 241 TVPFFHGFMTTGLYLCGFRIVMLTKFDEBETFLKTLQDYKCSVILVPTLFAILNRS 300
Db 241 TVPFFHGFMTTGLYLCGFRIVMLTKFDEBETFLKTLQDYKCSVILVPTLFAILNRS 300
Qy 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAVARBNFPGVROQGYGLTETTSAILIITPEGDDK 360
Db 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAVARBNFPGVROQGYGLTETTSAILIITPEGDDK 360
Qy 361 PGASGVVPLFKAKVIDLDTKTLGPNRRGEVCVKGPMLMKGYVDNPEATREIIDEGWL 420
Db 361 PGASGVVPLFKAKVIDLDTKTLGPNRRGEVCVKGPMLMKGYVDNPEATREIIDEGWL 420
Qy 421 HTGDIYDYDEEKHFFIVDRLSLIIKYKGQVPPAELESVILQHPNIFDAGVAGVDPPIAG 480
Db 421 HTGDIYDYDEEKHFFIVDRLSLIIKYKGQVPPAELESVILQHPNIFDAGVAGVDPPIAG 480
Qy 481 ELPGAVVLEKSKMTEKEVMDYVASQVSNAXRLRGGVRFVDEVPKGLTGKIDGKAIREI 540
Db 481 ELPGAVVLEKSKMTEKEVMDYVASQVSNAXRLRGGVRFVDEVPKGLTGKIDGKAIREI 540
Qy 541 LKXPVAXM 548
Db 541 LKXPVAXM 548

RESULT 19
US-08-487-183A-12
; Sequence 12, Application US/08487183A
; Patent No. 6387675
; GENERAL INFORMATION:
; APPLICANT: WOOD, Keith V.
; APPLICANT: GRUBER, Monika G.
; TITLE OF INVENTION: MUTANT LUCIFERASES
; NUMBER OF SEQUENCES: 16
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Foley & Lardner
; STREET: P.O. Box 1497
; CITY: Madison
; STATE: WI
; COUNTRY: USA
; ZIP: 53701-1497
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/487,183A
; FILING DATE: 06-JUN-1995
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/467,773
; FILING DATE: 06-JUN-1995
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/177,081
; FILING DATE: 03-JAN-1994
; ATTORNEY/AGENT INFORMATION:
; NAME: Scanlon, William J.

; REGISTRATION NUMBER: 31,136
; REFERENCE/DOCKET NUMBER: 19017/166
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (608)258-5035
; TELEFAX: (608)258-4258
; INFORMATION FOR SEQ ID NO: 12:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 548 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; US-08-487-183A-12

Query March 94.98; Score 2680; DB 4; Length 548;
Best Local Similarity 93.2%; Pred. No. 5.1e-274;
Matches 511; Conservative 26; Mismatches 11; Indels 0; Gaps 0;

Qy 1 MENMENDENIVGPKPFPIEESGAGTQRLKMYERYAKLGAIAFTNAVTVGVDYSYABYLE 60
Db 1 MENMENDENIVGPKPFPIEESGAGTQRLKMYERYAKLGAIAFTNAVTVGVDYSYABYLE 60
Qy 61 KSCCLGKALQNYGLVVDGRIALCSENCEBFFIPVLAGLFIGVGVAPTNEIYTLRELHSL 120
Db 61 KSCCLGKALQNYGLVVDGRIALCSENCEBFFIPVLAGLFIGVGVAPTNEIYTLRELHSL 120
Qy 121 GISKPTIVFSSKGLDKVITVQKTVAIKTIVILDSKVDYRGYQSMDFIKNTPOGFKG 180
Db 121 GISKPTIVFSSKGLDKVITVQKTVAIKTIVILDSKVDYRGYQSMDFIKNTPOGFKG 180
Qy 181 SSFKTVENVNRKEQVALIMNSSGSTGLPKGVQLTHENAVTRFSHARDPIYGNQVSPGTAIL 240
Db 181 SSFKTVENVNRKEQVALIMNSSGSTGLPKGVQLTHENAVTRFSHARDPIYGNQVSPGTAIL 240
Qy 241 TVPFFHGFMTTGLYLCGFRIVMLTKFDEBETFLKTLQDYKCSVILVPTLFAILNRS 300
Db 241 TVPFFHGFMTTGLYLCGFRIVMLTKFDEBETFLKTLQDYKCSVILVPTLFAILNRS 300
Qy 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAVARBNFPGVROQGYGLTETTSAILIITPEGDDK 360
Db 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAVARBNFPGVROQGYGLTETTSAILIITPEGDDK 360
Qy 361 PGASGVVPLFKAKVIDLDTKTLGPNRRGEVCVKGPMLMKGYVDNPEATREIIDEGWL 420
Db 361 PGASGVVPLFKAKVIDLDTKTLGPNRRGEVCVKGPMLMKGYVDNPEATREIIDEGWL 420
Qy 421 HTGDIYDYDEEKHFFIVDRLSLIIKYKGQVPPAELESVILQHPNIFDAGVAGVDPPIAG 480
Db 421 HTGDIYDYDEEKHFFIVDRLSLIIKYKGQVPPAELESVILQHPNIFDAGVAGVDPPIAG 480
Qy 481 ELPGAVVLEKSKMTEKEVMDYVASQVSNAXRLRGGVRFVDEVPKGLTGKIDGKAIREI 540
Db 481 ELPGAVVLEKSKMTEKEVMDYVASQVSNAXRLRGGVRFVDEVPKGLTGKIDGKAIREI 540
Qy 541 LKXPVAXM 548
Db 541 LKXPVAXM 548

RESULT 20
US-09-111-752-7
; Sequence 7, Application US/09111752
; Patent No. 6074859
; GENERAL INFORMATION:
; APPLICANT: HIROKAWA, KOZO
; APPLICANT: KAJIYAMA, NAOKI
; APPLICANT: MURAKAMI, SEIJI
; TITLE OF INVENTION: MUTANT-TYPE BIOLUMINESCENT PROTEIN, AND
; TITLE OF INVENTION: PROCESS FOR PRODUCING MUTANT-TYPE LUMINESCENT PROTEIN
; NUMBER OF SEQUENCES: 14
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT,
; ADDRESSEE: P.C.
; STREET: 1755 S. JEFFERSON DAVIS HIGHWAY, SUITE 400

DB 541 LK 543

RESULT 21

US-09-111-752-5

; Sequence 5, Application US/09111752

; Patent No. 6074859

; GENERAL INFORMATION:

; APPLICANT: HIROKAWA, KOZO

; APPLICANT: KAJIYAMA, NAOKI

; APPLICANT: MURAKAMI, SEIJI

; TITLE OF INVENTION: MUTANT-TYPE BIOLUMINESCENT PROTEIN, AND

; TITLE OF INVENTION: PROCESS FOR PRODUCING MUTANT-TYPE LUMINESCENT PROTEIN

; NUMBER OF SEQUENCES: 14

; CORRESPONDENCE ADDRESS:

; ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT,

; ADDRESSEE: P.C.

; STREET: 1755 S. JEFFERSON DAVIS HIGHWAY, SUITE 400

; CITY: ARLINGTON

; STATE: VA

; COUNTRY: USA

; ZIP: 22202

; COMPUTER READABLE FORM:

; MEDIUM TYPE: Floppy disk

; COMPUTER: IBM PC compatible

; OPERATING SYSTEM: PC-DOS/MS-DOS

; SOFTWARE: Patent in Release #1.0, Version #1.30

; CURRENT APPLICATION DATA:

; APPLICATION NUMBER: US/09/111,752

; FILING DATE: 08-JUL-1998

; CLASSIFICATION: 435

; ATTORNEY/AGENT INFORMATION:

; NAME: OBLON, NORMAN F.

; REGISTRATION NUMBER: 24,618

; REFERENCE/DOCKET NUMBER: 7126-0009-0

; TELECOMMUNICATION INFORMATION:

; TELEPHONE: 703-413-3000

; TELEFAX: 703-413-2220

; INFORMATION FOR SEQ ID NO: 5:

; SEQUENCE CHARACTERISTICS:

; LENGTH: 552 amino acids

; TYPE: amino acid

; STRANDEDNESS: single

; TOPOLOGY: linear

; MOLECULE TYPE: peptide

; ORIGINAL SOURCE:

; ORGANISM: Luciola cruciata and Photinus pyralis

US-09-111-752-5

Query Match 91.7%; Score 2589; DB 3; Length 552;

Best Local Similarity 91.0%; Pred. No. 2.2e-264;

Matches 494; Conservative 30; Mismatches 19; Indels 0; Gaps 0;

QY 1 MENMENDENIVYGPPEFYPIEESGAGLRKYMDRYAKLGAIAFTNALGVDTYAEYLE 60

DB 1 MENMENDENIVGPKFYPIEESGAGTQLRKYMYAKLGAIAFTNAVGVDTYAEYLE 60

QY 61 KSCCLGALKNYGLVVDGRIALCSECEFFIPVLAGLFIGVGVAPTNEIYTLRELHSL 120

DB 61 KSCCLGALKONYGLVVDGRIALCSECEFFIPVLAGLFIGVGVAPTNEIYTLRELHSL 120

QY 121 GISKPTIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGVQSDNFIKNTPGQK 180

DB 121 GISKPTIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGVQSDNFIKNTPGQK 180

QY 181 SSFKTVEVRKEQVALIMNSGSGTGLPKGVQLTHENAVTRFSHARDPIYGNQVSPGTAIL 240

DB 181 SSFKTVEVRKEQVALIMNSGSGTGLPKGVQLTHENAVTRFSHARDPIYGNQVSPGTAIL 240

QY 241 TVVPFHGFGMFTTGLYTCGFRIVMLTKFDEETFLKTDYKCSSVILVPTLFAILNRS 300

DB 241 TVVPFHGFGMFTTGLYTCGFRIVMLTKFDEETFLKTDYKCSSVILVPTLFAILNRS 300

QY 301 ELLDKYDLSNLVBIASGGAPLSKEIEAVARRFNLPGVRRQGYGLTETTSAILIITPEGDDK 360

DB 301 ELLDKYDLSNLVBIASGGAPLSKEIEAVARRFNLPGVRRQGYGLTETTSAILIITPEGDDK 360

QY 361 PGAGKGVPLFKAIVLDLTKTLGNRRGEVGVKGMKMGVNDPENTREIIDEAGL 420

DB 361 PGAGKGVPLFKAIVLDLTKTLGNRRGEVGVKGMKMGVNDPENTREIIDEAGL 420

QY 421 HTGIDGYDEEHKFFIVDRKLSIKYGVQVPAELESVLLQHPNIFDAGVAGVDPDAG 480

DB 421 HTGIDGYDEEHKFFIVDRKLSIKYGVQVPAELESVLLQHPNIFDAGVAGVDPDAG 480

QY 481 ELPGAIVVLEKGSMTKEVMDVVASQVNAKRLRGVGFVDEVKGLTGKIDGKAIIRI 540

DB 481 ELPGAIVVLEKGSMTKEVMDVVASQVNAKRLRGVGFVDEVKGLTGKIDGKAIIRI 540

QY 541 LK 543

QY 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAVARFNLPGVVRQGYGLTETTSAILIITPEGDDK 360
DB 301 TLIDKVDLSNLHEIASGGAPLSKEIGEAVARFNLPGVVRQGYGLTETTSAILIITPEGDDK 360
QY 361 PGASGKVPFLFAKVJDLTKTGLGNRRGEVVCVGPMLMKGYVONPEATRIIIDEQWL 420
DB 361 PGAVGKVPFFFAKVVDLDTGTGLGNRRGEVVCVGPMLMKGYVONPEATRIIIDEQWL 420
QY 421 HTGDIQYDEEKEHFFIVDRLSLIIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDIAG 480
DB 421 HSGDIAYDEDEHFFIVDRLSLIIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDIAG 480
QY 481 ELPAGVVLEKGSMTKEVMDYVASQVSNKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
DB 481 ELPAAVVVLEHGKMTKEIVDYVASQVTTAKKLRGGVVVDEVPKGLTGKIDGKAIREI 540
QY 541 LKK 543
DB 541 LK 543

RESULT 22
US-09-380-061B-18
; Sequence 18, Application US/09380061B
; Patent No. 6265177
; GENERAL INFORMATION:
; APPLICANT: SQUIRRELL, DAVID JAMES
; WHITE, PETER JOHN
; MURRAY, JAMES AUGUSTUS HENRY
; LOWE, CHRISTOPHER ROBIN
; TITLE OF INVENTION: ENZYME ASSAY FOR MUTANT FIREFLY LUCIFERASE
; NUMBER OF SEQUENCES: 21
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: NIXON & VANDERHYE P.C.
; STREET: 1100 NORTH GLEBE ROAD
; CITY: ARLINGTON
; STATE: VIRGINIA
; COUNTRY: U.S.A.
; ZIP: 22201-4714
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent in Release #1.0, Version #1.25 (EPO)
; CURRENT APPLICATION DATA: US/09/380, 061B
; FILING DATE: 25-AUG-1999
; CLASSIFICATION: <Unknown>
; PRIOR APPLICATION DATA: PCT/GB98/01026
; FILING DATE: 7-APR-1998
; APPLICATION NUMBER: GB 9707468.8
; FILING DATE: 11-APR-1997
; ATTORNEY/AGENT INFORMATION:
; NAME: SADOFF, B. J.
; REFERENCE/DOCKET NUMBER: 36,663
; TELEPHONE: (703)816-4000
; TELEFAX: (703)816-4100
; INFORMATION FOR SEQ ID NO: 18:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 548 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; SEQUENCE DESCRIPTION: SEQ ID NO: 18:
US-09-380-061B-18

Query Match 83.0%; Score 2344.5; DB 3; Length 548;
Best Local Similarity 82.1%; Pred. No. 1.5e-238;
Matches 448; Conservative 46; Mismatches 51; Indels 1; Gaps 1;

QY 4 MENDENIVGPEPTPIEIEGSAGQLRKYMDRVAKLGAIAFTNALTGVDTYAYEYLEKSC 63
DB 3 MEKENVYGLPPIPIEIEGSAGQLRKYMDRVAKLGAIAFTNALTGVDTYAYEYLEKSC 62
QY 64 CLGALXNYGLVDRGIALSCENEEFFIPVLAGLFTGVGVAPNEIYITRELVHSLGIS 123
DB 63 RLBAKXNFGMKPBEHIALSCENEEFFIPVLAGLYIGVAVAPTNETITRELNHSGLIA 122
QY 124 KPTTVFSSKGLDKVITVQKTVTAIKTIVILDSVDYRGYOSMDNFIKONTPOQFGKSSF 183
DB 123 OPTIVFSRKGKLPVLEEVQKTVTCIKIVILDSKVNFGGDCMETFIKXVELGFGQSSP 182
QY 184 KTVRV-NRKEQVALIMNSSSGSTGLPKGVQLTHENAVTRFSHARDPIYGNQVSPGTAILTV 242
DB 183 VPIDVNRKQHVALLMNSSSGSTGLPKGVRIITHEGAVTRFSHAKDPIYGNQVSPGTAILTV 242
QY 243 VPFHHGFGMTTGLYTCGFRIVMLTKFDEETFLTKTQDYKCSSVILVPTLFAILNRSSEL 302
DB 243 VPFHHGFGMTTGLYFACGRVAVMLTKFDEELFURLTQDYKCSVILVPTLFAILNRSSEL 302
QY 303 LDKYDLSNLVEIASGGAPLSKEIGEAVARFNLPGVVRQGYGLTETTSAILIITPEGDDKPG 362
DB 303 IDKFDLSNLTEIASGGAPLAKAVEGEAVARRFNLPGVVRQGYGLTETTSAILIITPEGDDKPG 362
QY 363 ASGKVPFLFAKVJDLTKTGLGNRRGEVVCVGPMLMKGYVONPEATRIIIDEQWLHT 422
DB 363 ASGKVPFLFAKVJDLTKTGLGNRRGEVVCVGPMLMKGYVONPEATRIIIDEQWLHT 422
QY 423 GDIGYDEEKEHFFIVDRLSLIIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDIAGEL 482
DB 423 GDIGYDEEKEHFFIVDRLSLIIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDIAGEL 482
QY 483 PGAVVLEKGSMTKEVMDYVASQVSNKRLRGVRFVDEVPKGLTGKIDGKAIREILK 542
DB 483 PGAVVMEKGTMTKEIVDYVNSQVNVNHNKRLRGVRFVDEVPKGLTGKIDGKAIREILK 542
QY 543 KPVAKM 548
DB 543 KPQAKM 548

RESULT 23
US-08-487-183A-16
; Sequence 16, Application US/08487183A
; Patent No. 6387675
; GENERAL INFORMATION:
; APPLICANT: WOOD, Keith V.
; APPLICANT: GRUBER, Monika G.
; TITLE OF INVENTION: MUTANT LUCIFERASES
; NUMBER OF SEQUENCES: 16
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Foley & Lardner
; STREET: P.O. Box 1497
; CITY: Madison
; STATE: WI
; COUNTRY: USA
; ZIP: 53701-1497
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent in Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/487,183A
; FILING DATE: 06-JUN-1995
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/467,773
; FILING DATE: 06-JUN-1995
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/177,081
; FILING DATE: 03-JAN-1994
; ATTORNEY/AGENT INFORMATION:

NAME: Scanlon, William J.
REGISTRATION NUMBER: 31,136
REFERENCE/DOCKET NUMBER: 19017/166
TELECOMMUNICATION INFORMATION:
TELEPHONE: (608) 258-5035
TELEFAX: (608) 258-4258
INFORMATION FOR SEQ ID NO: 16:
SEQUENCE CHARACTERISTICS:
LENGTH: 548 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
US-08-487-183A-16

Query Match 83.0%; Score 2344.5; DB 4; Length 548;
Best Local Similarity 82.1%; Pred. No. 1.5e-238;
Matches 448; Conservative 46; Mismatches 51; Indels 1; Gaps 1;
QY 4 MENDENIVGPEPPYPIEESGAGAKLRYMDRYAKLGAIAFTNALTGVDYTYAEYLEKSC 63
Db 3 MEKENVYVGLPFPYPIEESGAGIQLHKYHQYAKLGAIAFNSALTGVDISQYFDTIC 62
QY 64 CLGALKNYGLVVDGRIALCSENCEEFFIPVLGLFYGIVGVAFTNBIYTLRELHSLGIS 123
Db 63 RLAEAMKNFGMKPEEHIALCSENCEEFFIPVLGLYIGVAVFTNBIYTLRELHSLGIA 122
QY 124 KPTIVFSSKGLDVIIVQKTVTAIKTIVILDSKVDYRGVQSMDFIKKNTPOGPKGSF 183
Db 123 OPTIVFSSRKLGPVLEQKTVTCIKKIVILDSKVNFGHDCMETFIKXVELGFPSSF 182
QY 184 KTVEV-NRKEQVALIMNSSGSTGLPKGVOLTHENAVTRFSHARDPIYGNQVSPGTALT 242
Db 183 VPIDVNRKQHVALLMNSGSTGLPKGVRI THEGAVTRFSHAKDPIYGNQVSPGTALT 242
QY 243 VPFHGFGMTTGLYTCGFRIVMLTKFDBETFLTKTDYKCSVILVPTLFAILNRSEL 302
Db 243 VPFHGFGMTTGLYFACGYRVVMLTKFDBELFLRTLDYKCTSVILVPTLFAILNRSEL 302
QY 303 LDKYDLSNLVEIASGAPLSKEIGEAVARRFNLPVGRQGYGLTETTSALITPEGDDKPG 362
Db 303 IDKFDLSNLTEIASGAPLAKEVGEAVARRFNLPVGRQGYGLTETTSALITPEGDDKPG 362
QY 363 ASGVKVPFLFKAVIDLDTKTLGNRGEVCVKGPMKMGVNDPEATREIIDEEGLHT 422
Db 363 ASGVKVPFLFKAVIDLDTKTLGNRGEVCVKGPMKMGVNDPEATREIIDEEGLHT 422
QY 423 GDIGYDEDEHFFIVDLRLKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDAGEL 482
Db 423 GDIGYDEDEHFFIVDLRLKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDAGEL 482
QY 483 PGAVVLEKSKMTEKEVMDYVASQVSNKRLGGVRFVDEVPKGLTGKIDKAIRELK 542
Db 483 PGAVVMEKSKMTEKEIVDYNVSNHRLGGVRFVDEVPKGLTGKIDKAIRELK 542
QY 543 KPVAKM 548
Db 543 KPOAKM 548

RESULT 24
US-09-396-154-29
Sequence 29, Application US/09396154
Patent No. 6602677
GENERAL INFORMATION:
APPLICANT: Wood, Keith V.
APPLICANT: Hall, Mary P.
TITLE OF INVENTION: Thermostable luciferases and methods of
production
FILE REFERENCE: 341.012US1
CURRENT APPLICATION NUMBER: US/09/396,154
CURRENT FILING DATE: 1999-09-15
EARLIER APPLICATION NUMBER: US 09/156,946
EARLIER FILING DATE: 1998-09-18

EARLIER APPLICATION NUMBER: PCT/US98/19494
EARLIER FILING DATE: 1998-09-18
EARLIER APPLICATION NUMBER: US 60/059,379
EARLIER FILING DATE: 1997-09-19
NUMBER OF SEQ ID NOS: 93
SOFTWARE: FastSeq for Windows Version 3.0
SEQ ID NO 29
LENGTH: 548
TYPE: PRT
ORGANISM: Luciola mingrelia
US-09-396-154-29

Query Match 83.0%; Score 2344.5; DB 4; Length 548;
Best Local Similarity 82.1%; Pred. No. 1.5e-238;
Matches 448; Conservative 46; Mismatches 51; Indels 1; Gaps 1;
QY 4 MENDENIVGPEPPYPIEESGAGAKLRYMDRYAKLGAIAFTNALTGVDYTYAEYLEKSC 63
Db 3 MEKENVYVGLPFPYPIEESGAGIQLHKYHQYAKLGAIAFNSALTGVDISQYFDTIC 62
QY 64 CLGALKNYGLVVDGRIALCSENCEEFFIPVLGLFYGIVGVAFTNBIYTLRELHSLGIS 123
Db 63 RLAEAMKNFGMKPEEHIALCSENCEEFFIPVLGLYIGVAVFTNBIYTLRELHSLGIA 122
QY 124 KPTIVFSSKGLDVIIVQKTVTAIKTIVILDSKVDYRGVQSMDFIKKNTPOGPKGSF 183
Db 123 OPTIVFSSRKLGPVLEQKTVTCIKKIVILDSKVNFGHDCMETFIKXVELGFPSSF 182
QY 184 KTVEV-NRKEQVALIMNSSGSTGLPKGVOLTHENAVTRFSHARDPIYGNQVSPGTALT 242
Db 183 VPIDVNRKQHVALLMNSGSTGLPKGVRI THEGAVTRFSHAKDPIYGNQVSPGTALT 242
QY 243 VPFHGFGMTTGLYTCGFRIVMLTKFDBETFLTKTDYKCSVILVPTLFAILNRSEL 302
Db 243 VPFHGFGMTTGLYFACGYRVVMLTKFDBELFLRTLDYKCTSVILVPTLFAILNRSEL 302
QY 303 LDKYDLSNLVEIASGAPLSKEIGEAVARRFNLPVGRQGYGLTETTSALITPEGDDKPG 362
Db 303 IDKFDLSNLTEIASGAPLAKEVGEAVARRFNLPVGRQGYGLTETTSALITPEGDDKPG 362
QY 363 ASGVKVPFLFKAVIDLDTKTLGNRGEVCVKGPMKMGVNDPEATREIIDEEGLHT 422
Db 363 ASGVKVPFLFKAVIDLDTKTLGNRGEVCVKGPMKMGVNDPEATREIIDEEGLHT 422
QY 423 GDIGYDEDEHFFIVDLRLKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDAGEL 482
Db 423 GDIGYDEDEHFFIVDLRLKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDAGEL 482
QY 483 PGAVVLEKSKMTEKEVMDYVASQVSNKRLGGVRFVDEVPKGLTGKIDKAIRELK 542
Db 483 PGAVVMEKSKMTEKEIVDYNVSNHRLGGVRFVDEVPKGLTGKIDKAIRELK 542
QY 543 KPVAKM 548
Db 543 KPOAKM 548

RESULT 25
US-09-380-061B-20
Sequence 20, Application US/09380061B
Patent No. 6265177
GENERAL INFORMATION:
APPLICANT: SQUIRRELL, DAVID JAMES
WHITE, PETER JOHN
LOWE, CHRISTOPHER ROBIN
MURRAY, JAMES AUGUSTUS HENRY
TITLE OF INVENTION: ENZYME ASSAY FOR MUTANT FIREFLY LUCIFERASE
NUMBER OF SEQUENCES: 21
CORRESPONDENCE ADDRESS:
ADDRESSEE: NIXON & VANDERHVE P.C.
STREET: 1100 NORTH GLEBE ROAD
CITY: ARLINGTON
STATE: VIRGINIA

Search completed: July 22, 2004, 08:21:22
Job time : 17.6667 secs

COUNTRY: U.S.A.
ZIP: 22201-4714
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25 (EPO)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/380,061B
FILING DATE: 25-Aug-1999
CLASSIFICATION: <Unknown>
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/GB98/01026
FILING DATE: 7-APR-1998
APPLICATION NUMBER: GB 9707468.8
FILING DATE: 11-APR-1997
ATTORNEY/AGENT INFORMATION:
NAME: SADOFF, B. J.
REGISTRATION NUMBER: 36,663
REFERENCE/DOCKET NUMBER: 124-725
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703) 816-4000
TELEFAX: (703) 816-4100
INFORMATION FOR SEQ ID NO: 20:
SEQUENCE CHARACTERISTICS:
LENGTH: 547 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
SEQUENCE DESCRIPTION: SEQ ID NO: 20:
US-09-380-061B-20

	Query Match	69.7%	Score 1968.5	DB 3	Length 547			
	Best Local Similarity	69.2%	Pred. No. 8.2e-199					
	Matches	373	Conservative	74	Mismatches 91			
				Indels	1			
				Gaps	1			
Qy	4	MENDENTVYGP	VPYPIEESGAGACLEKYM	DRYAKL-GAIAFTNALTC	VDVTVYAEYLEKS 62			
Db	1	MEDAKNIMHG	PAPYPLEDGTAGQLHKMKRYAQ	VFCTTAFTDAHAEVNTYSEY	FEA 60			
Qy	63	CCLEALKNYGL	VVDGRIALCSENC	EPFFIVLACLF	IGVGVAPTNRIYTLRELIVHSLGI 122			
Db	61	CRLAETWKYGL	GLQHLHIVCSENSLO	PFMFVCCGALF	IGVGVASTDINDIYNERELVNSLSI 120			
Qy	123	SKPTIVSSK	GLDKVITQKTVTA	KTIIVILDSKV	DYRGVQSDMNF	TKMNTPOFGKSS 182		
Db	121	SQPTIVSC	KRALQKILGVQK	PLIIQKIVILDS	REDYMGQSMYS	TIESHPALGAFNEYD 180		
Qy	183	FKTVEVNR	KEOVALIMSSSG	STGLPKGVOL	THENAVTRF	SHARDPIYGNQVSPCTAILTV 242		
Db	181	YIPDSF	PRETATALIMSSSG	TGLPKGV	VELTHQNV	CRFSPVFNQIIPDITAILTV 240		
Qy	243	VPFHGFG	MFTTGLVLT	CGFRIVMLTK	FDDEETFLKTLQ	DYKCSSVILVPTTLFAILNRSEL 302		
Db	241	IPFHGFG	MFTTGLVLT	CGFRIVLMYR	PEELFLRS	LQDYKIQSALLVPTLFSFPAKSTL 300		
Qy	303	LDKYDLS	NLNLVEIASG	GAPLSK	EIGEAVARRNL	PGVRQGYGLTETTSIIITPGDDKPG 362		
Db	301	VDKYDLS	NLNLHEIASG	GAFLAKEV	GEAVAKRF	KLPIGRQYGLTETTSIIITPGDDKPG 360		
Qy	363	ASGKV	WPLFKA	KVLDLTK	TGLGNRGEV	CVKGPMLMGVVDNPEATREIILDEEGLMHT 422		
Db	361	ACGKV	WPFPSAKI	VDLDTG	KTGLGVNQR	GELCVKGPMLMGVYNNPEATSAI	LDKDGWLHS 420	
Qy	423	GDI	GYDEEK	HFVIV	DLKSLIKY	KGYPVPAELESVLLQHPNIF	DGAVAGVDPPIAGEL 482	
Db	421	GDI	AYDKD	GHFVIV	DLRLKSLIKY	KGYPVPAELESIILOHFF	IFDAGVAGIPDPDAGEL 480	
Qy	483	PGAVV	LEKGS	MTKE	YMDYV	ASQVSNAKLR	GGVRFVDEVPKGLTKGIDKAI	REITL 541
Db	481	PAV	VVLEEG	KTMTE	EOEYMDY	VAGOVTKAS	KLRRGGKVFDEVPKGLTKGIDKAI	REITL 539

